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ECONOMIC SURVEY OF EUROPE 1962

Part 2. Economic Planning in Europe

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ECONOMIC SURVEY OF EUROPE IN 1962

Part 2

ECONOMIC PLANNING IN EUROPE

Prepared by the

SECRETARIAT OF THE
ECONOMIC COMMISSION FOR EUROPE

GENEVA, 1965

NOTICE TO READERS

This volume constitutes Part 2 of the *Economic Survey of Europe in 1962*, a study of " Economic Planning in Europe ". Part 1 of the SURVEY, entitled " The European Economy in 1962 ", was published in 1963 under the symbol E/ECE/493.

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Prefatory Note

This study on " Economic Planning in Europe " is one of a series of reports prepared by the Secretariat of the Economic Commission for Europe and published in the annual *Economic Survey of Europe* and *Economic Bulletin for Europe*. Their purpose is to serve the needs of the Commission and to help in the task of reporting on world economic conditions, which the Economic and Social Council of the United Nations has entrusted to the Department of Economic and Social Affairs.

The preparation of this study was undertaken both to meet these continuing requirements and in consequence of Resolution 1708 (XVI) adopted by the General Assembly on 19 December 1961. The Resolution contained a series of recommendations concerning increased activities in the field of development planning, and included a request to the Secretary-General " to provide studies of planning techniques under various economic and social systems which would be helpful to national and regional institutes of economic development and planning ". A preliminary, and incomplete, review of European countries' experience of economic planning was submitted by the Secretariat of the Commission to the thirty-sixth session of the Economic and Social Council, under item 1 of its agenda. The version now published is the result of considerable further work by the Secretariat. Owing to the steady evolution of planning methods and institutions, it has unfortunately not been possible to ensure that all the information in this study is equally up to date. In general, however, the substance of Chapters III and V relates to information available at the end of 1963, and that of Chapters IV, VI and VII to information available in the autumn of 1964.

This study is published on the responsibility of the Secretariat, and the views expressed in it should not be attributed to the Commission or to its participating governments.

Geneva, July 1965

CORRIGENDA

Economic Survey of Europe in 1964

Chapter I, page 34, Table 18, first column, fifth line should read:

" Total money incomes of collective farms ".

Chapter II, page 17, first column, first complete paragraph, sixth and seventh lines should read:

" postwar years. Personal incomes before tax rose two or three times as fast, as did wage- and salary-incomes."

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EXPLANATORY NOTES

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country or territory or of its authorities, or concerning the delimitation of the frontiers of any country or territory.

The following symbols have been used throughout this SURVEY:

.. = not available or not pertinent;

— = nil or negligible;

* = estimate by the secretariat of the Economic Commission for Europe.

In referring to combinations of years, the use of an oblique stroke—e.g. 1959/60—signifies a twelve-month period (say from 1 July 1959 to 30 June 1960). The use of a hyphen—e.g. 1958-1960—normally signifies either an average of, or a total for, the full period of calendar years covered (including the end years indicated).

Unless the contrary is stated, the standard unit of weight used throughout is the metric ton. The definition " billion " used throughout is one thousand million. Minor discrepancies in totals and percentages are due to rounding.

References to the OECD (Organization for Economic Co-operation and Development) refer to the western European members of that organization—i.e. excluding Canada, the United States and Japan.

CHAPTER I

INTRODUCTION

In 1939 the only country in Europe with a planned economy was the Soviet Union. By the end of 1949, political changes in eight other eastern European countries had brought about their transformation into economies based on public ownership of the means of production and exchange, with accompanying changes in economic and social institutions and the setting up of economic planning systems on the Soviet model. The successive long-term plans of all these countries have been regularly reviewed in the annual *Economic Surveys of Europe.* [1]

In the predominantly market economies of western Europe, reconstruction plans had been adopted by the same date in France, the Netherlands and Norway, and in a number of other countries governments were prepared—to a greater extent than they had been during the inter-war years—both to recognize the fact that their actions inevitably influenced the pace and pattern of growth of the national economy and to accept the view that this influence should be exercised purposively. [2] The subsequent years have seen both the establishment of some kind of planning machinery in a number of countries in addition to those mentioned above and also modifications of planning objectives and techniques in those where planning had begun earlier. The current long-term plans of Finland, France, Greece, the Netherlands, Norway, Portugal, Sweden and Turkey were discussed in the *Economic Bulletin for Europe*, Vol. 14, No. 2. More recently, Belgium, Cyprus, Iceland, Ireland, Italy, Malta, Spain and the United Kingdom have each established some kind of long-term plan or projection for economic development and/or some kind of machinery for producing such plans.

The present study does not again discuss the actual content of existing or past plans in European countries (that is, the projections of, or targets for, economic development overall or in particular sectors) and refers to the targets of the individual plans only to the minimum extent necessary for its main purpose — a review of methods of economic planning and plan implementation in European countries.

In attempting to set more precisely the limits of the study, the first difficulty was that of delimiting the term "economic planning". The economies of Albania, Bulgaria, Czechoslovakia, eastern Germany, Hungary, Poland, Rumania and the Soviet Union are avowedly "planned economies", in which the state has assumed responsibility for the detailed management of virtually the whole of the economic system; and few would exclude Yugoslavia from the same category, although the system of economic planning and management in that country has many characteristics differing significantly from those of the systems in the other eight. In all these countries the introduction of planning was a direct consequence of revolutionary political and social changes.

By contrast, in the market economies of western Europe the gradual acceptance of the idea of economic planning is the product of the convergence of four important trends in economic thinking and policies. In the first place, the groundwork for economic planning has been accomplished by the gradual adoption of *a global view of the economy*, thanks to the considerable progress made by macro-economic theory and analysis and its practical application in national accounting, input-output analysis and projection techniques. The origins of this approach can be traced back to the classical economists, but practical work in this direction was first initiated by Soviet economists in the 1920s and given a new impetus in the market economies by the Great Depression and by the Second World War and its consequences.

Such a global view of the economy, taking into account all major interrelations, gains in significance if it becomes the basis for government policy. The gradual recognition of the need for a *more active role of the government* that has characterized political and social evolution in western Europe since the Great Depression introduced an important change of attitudes in this respect. It was more and more widely admitted that, useful as it may be in other respects, the price mechanism was inadequate both to ensure a high level of activity and to provide an appropriate basis for long-term investment decisions. Interference with the free market has therefore become a normal feature of government policies. There is little doubt that the role of the government has been strengthened by the increase of the relative importance of the "public sector" in the economy [3] which resulted from the war economy and postwar nationalizations; but the co-ordination of public sector activities and their subordination to the policy objectives of the government remains one of the most important problem areas of planning in the market economies. In any event, there are very considerable differences from one country to another in respect both of the size of the public sector and of the conception of the role of the government.

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[1] Reviews of the current five-, six- or seven-year plans, and of such data as have been published on the "perspective plans" for the years up to 1980, were contained in the SURVEYS for 1959 to 1962 (Part 1), inclusive, and in the *Bulletin*, Vol. 13, No. 2.

[2] A much larger group of western European countries prepared "long-term plans" in the framework of the European Recovery Programme; but few of these appear to have had any significant long-run effect on the economic policies of the countries concerned and they are not covered by this study.

[3] See "Economic Significance of the Public Sector", *Economic Survey of Europe in 1959*, Part III.

The third trend concerns *the growing preoccupation with long-term objectives*, noticeable in many market economies. Concern for rapid growth implying important structural changes for which the price mechanism could not be relied upon was behind the plans of the less-developed countries of southern Europe and, to a lesser extent, the early postwar reconstruction plans of many western European countries. However, even when balance-of-payments equilibrium or full employment or monetary stability are the primary objectives, their purposeful pursuit requires an extension of the time-horizon. Taken this way, day-to-day economic policies and short-term economic planning itself can be inserted in a longer perspective which, subject to constant adjustments, could stretch in principle as far ahead as the effects of the envisaged structural changes can be visualized.

Finally, there is the trend, observable in several countries, towards *widening participation in the shaping of medium- and long-term economic policies*. This trend has two different aspects. The first, more political and psychological, aspect is democratic participation in the planning process, particularly useful for mobilizing the popular enthusiasm necessary for carrying out economic plans in less-developed countries or in the period of postwar reconstruction. The second aspect concerns the participation of economic agents and collective organizations in the decision-making process, particularly necessary in those market economies where the scope and possibilities of direct government intervention are limited. At the same time it is worth noting that in many instances the growing participation of labour and management in planning stems from recognition of the efficiency and importance of new official or semi-official machinery for co-ordination and collective decision-making.

Naturally, the four trends summarized above do not have the same relative importance in each country of western Europe, and in at least some of them there has even been a reversal of the trend towards more active government policies. In such an essentially fluid situation, the selection of countries for inclusion in this study could not be based on a relatively clear-cut definition of planning.

Logically, "economic planning" in a predominantly market economy could be defined as a process in which — as a minimum — attempts are made:

(*a*) to establish the major objectives of economic policy and to indicate their relative priorities;

(*b*) to translate these objectives, as far as possible, into a complex of explicit, and consistent, quantitative targets for economic development over a stated period by such means as:

  (i) evaluation of the productive resources available, analysis of the relevant interdependences of economic variables and examination of the effects of acceptable policy alternatives,

  (ii) analyses and projections in quantitative terms of the actual and possible future rate(s) and pattern(s) of development of the economy;

(*c*) to select and apply, as necessary, in the light of the results of (b) and of the social and economic structure of the country, measures designed to achieve these plan targets and policy objectives.

The distinction made above between "policy objectives" and "plan targets" is deliberate and will be preserved in the subsequent chapters of this study. By the former is meant such major goals of economic policy as rapid growth, full employment, industrial development, etc.; by the latter, the setting of specific — and mainly quantitative — targets related to these goals, such as rates of total output, of production in major sectors, and possibly of growth in individual industrial branches, growth rates of labour productivity or employment, targets for investment, imports and exports, etc. The borderline between "objectives" and "targets" may not always be crystal clear, but the broad distinction seems practically useful: policy objectives exist in virtually any economy, plan targets do not.

Points (*a*) and (*b*) of the definition do not call for any further qualification, except that the consistency of targets does not imply that governments must accept the plan representing the economic optimum: non-economic factors may argue strongly against the adoption of a complex of policy measures which in an economic sense may be optimal.

The situation is different with regard to point (*c*), which calls for some degree of "plan implementation" and implies that "planning" is different from "forecasting" and "projecting". "Projecting" can be defined as a tool for representing quantitatively alternative courses of future development by adopting different assumptions concerning policy variables, other exogenous variables and overall targets. By the same token, "forecasting" consists of selecting a single variant of projections, based on a given set of realistic assumptions including the most reasonable predictions of government policies. Projections and forecasts are widely used for planning purposes, but should not be identified with planning, which involves the selection of one course of action and of the corresponding policy instruments to attain specific targets. However, when a forecast is produced by an authoritative body — particularly by, or in co-operation with, the government machine — it is bound to influence economic decisions at all levels to some extent. This is true, even if the official "forecast" does not incorporate significant changes in economic policy measures because the rate and pattern of future development appears to be consistent with current economic objectives without such changes.[4]

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[4] It should be noted that the Central Planning Bureau of the Netherlands established a distinction between a "forecast" based on the assumption that government policies remain unchanged and a "plan" drafted to incorporate the effects of new policy measures required to bring about changes in forecast developments, to the extent that the latter are incompatible with the objectives of economic policy. (See *Economic Bulletin for Europe*, Vol. 14, No. 2, pp. 57-58.)

In this study it was not found practicable to draw a precise line between those western European countries which conform to the minimum definition of "economic planning" and those which confine themselves to "policy-making", using forecasts and projections without committing themselves to any definite course of action. Instead, the line adopted was to include in this study those countries where "economic planning" has acquired some kind of official status implying the willingness of governments to make use of the plans at least to some extent for the purpose of policy-making. Thus, this study covers a large variety of "plans" in European market economies, some of which may be considered as representing borderline cases.

The only common feature of the situation in western European market economies is the essential similarity of the "premises" of planning, as distinct from plan targets and policy objectives. The governments of the industrialized countries of western Europe have virtually renounced the use of quantitative trade controls or increases in tariffs as planning instruments, and the members of the European Economic Community are committed to the eventual elimination of all national obstacles to international trade in goods and services and to the mobility of labour and capital within the EEC area. Government fixing of wage-rates or other incomes is generally politically unacceptable in these countries, as is state monopoly of production or trade except in a few limited sectors. It seems practically useful to regard such desiderata as virtual freedom of international trade from quantitative controls, free wage bargaining, or the preservation of private ownership and enterprise in the major part of the economy as being basic "premises" of policy rather than "objectives" to be pursued subject to some scale of priorities. This is not to say, of course, that government influence may not be exerted over wages, over industrial activity, or over foreign trade in such countries — merely that certain means of ensuring such influence are ruled out except in national emergencies.

In the eastern European countries and the Soviet Union, the basic premises are fundamentally different — almost complete public ownership of the means of production, the existence of machinery for economic administration from the top of the planning hierarchy down to the enterprise, state monopoly of foreign trade, etc. These premises enable the government to issue mandatory directives to state (and, to a lesser extent, co-operative) enterprises, to fix wages and prices centrally and to allocate the major part of resources in accordance with detailed plans.

The contrast between the basic premises of the market economies and the centrally planned economies is reflected in a fundamental distinction between two broad types of planning, particularly relevant when it comes to plan implementation:

— *direct planning* applies where the central authority responsible for the plan has powers of disposition over the preponderant share of national resources. It can therefore assume the functions of both owner and entrepreneur and planning then becomes the explicit technique for economic management;

— *indirect planning* prevails where such powers are diffused among members of the community in individual or corporate entities and the state is restricted (outside the limited area of its own direct activity as investor, consumer or banker) mainly to measures influencing the use of these rights.

Admittedly, market economies apply some elements of direct planning and socialist economies use indirect methods of planning. Nevertheless, the differences between the premises and the corresponding types of planning are so profound as to set limits to the possibilities of useful comparison of the techniques of planning — and particularly of plan implementation — used in the two groups of countries and justify largely their separate treatment in this study.

It is implicit in the logic of planning and, indeed, in the definition given above that a medium- to long-term perspective is an important characteristic of planning. In this study "short-term plans" cover periods of less than three years, "medium-term plans" 3-7 years, whereas plans of more than seven years are "long-term or perspective plans or programmes". The western European plans reviewed in the *Bulletin* mentioned above cover periods of four to ten years: the current plans in the centrally planned economies cover five- to seven-year periods and perspective plans for longer periods up to 1970 or 1980 are either available in broad outline or in preparation. Thus, from a logical point of view, the annual plan or budget could be regarded as one of the "instruments" or "means" for implementing a longer-term plan rather than constituting a "plan" in itself. In practice, however, the study deals extensively with short-term planning, although for different reasons in western and eastern Europe.

The detailed discussion of short-term planning in western Europe was found necessary partly because of the emphasis placed in certain countries on annual plans and partly because of the intrinsic interest of certain methods of plan-building (particularly in the Netherlands), which — although also applicable to longer-term planning — were originally developed in the framework of annual planning. The space devoted to annual plans in the centrally planned economies reflects partly the fact that for many years these plans assumed a predominant role in the planning process and ceased to be "tranches" of longer-term plans. More important, however, was the consideration that in these countries the "use of planning as an explicit technique of management" applied primarily to the yearly (and also, to some extent, quarterly and monthly) plans.

The broad outline of the study follows the logic of planning as reflected in the definition given above. Chapter II discusses the *objectives* of planning. This chapter is further sub-divided as between western, southern and eastern Europe, reflecting fundamental differences in both the stages of development and social and economic systems of the areas. These differences are apparent in turn in the broad and general objectives of a high level of activity and stability in the developed market economies (including those countries which also pursue certain structural objectives), the predominance of growth and structural change among the objectives in the less-developed market economies, and finally the combination of economic, social and political objectives of growth and structural change in the centrally planned economies, where a more direct link exists between these objectives and development strategy.

Admittedly, many *techniques of plan-building* are, or can be, utilized irrespective of the social and economic institutions of a country, provided that the necessary quantitative and qualitative information can be made available. Nevertheless, the differences in the choice and the relative importance of the various techniques applied in western and eastern Europe are so great that it was found necessary to deal separately in Chapters III and IV with these issues in the two groups of countries. These two chapters have, however, this in common: they both aim primarily at describing the general sequence of plan construction and the techniques and procedures which are in principle used. No attempt is made to assess precisely the extent to which these techniques and procedures are followed in practice in any one country.

Chapter III devotes considerable space to econometric techniques in translating objectives into targets and related policy variables. This emphasis reflects the actual and, even more, potential importance of these techniques in presenting in quantifiable terms issues of choice which have hitherto been tackled by qualitative reasoning that could hardly evaluate even the most important interrelations. At the same time, the actual methods of plan-building appeared to be so different from one western European country to another that it was found necessary to discuss each country in a separate sub-section. It should be noted that an attempt has also been made to throw some light on the significance of consultations and other informal means for co-ordinating and rationalizing decisions within a decentralized system.

The concrete and detailed nature of the planning process in the centrally planned economies explains partly why econometric techniques have not as yet assumed an important role. Accordingly, Chapter IV follows largely the traditional sequence of eastern plan building, proceeding through planning and counter-planning at various levels to the detailed fixing of targets or directives as the ultimate result of the exercise. Nevertheless, consideration is also given to certain new approaches to planning, some of which make use of econometric techniques for purposes of overall consistency checks and in limited fields such as foreign trade optimization. Although these recent developments indicate a trend towards growing inter-country differentiation of plan-building methods, it was not possible to summarize the position of any individual country in this respect and the discussion aims only at illustrating interesting new orientations.

As already indicated, the difference between the centrally planned and the market economies becomes almost complete in the field of *plan implementation*, and justifies their discussion in two separate chapters. Indeed, it was found necessary to give a much broader scope to Chapter VI, dealing with eastern Europe and the Soviet Union, than to Chapter V, devoted to western and southern Europe. These differences in treatment, which resulted in the inclusion of many more elements of evaluation in Chapter VI than in Chapter V, correspond to the different role of planning in the two groups of countries.

By and large, planning is still on the margin of economic life in western Europe (except perhaps in one or two countries) in the sense that the decisions of most economic agents are not taken by reference to the plan, although they are affected by the broad trends foreseen and by the general orientation of government policies. Even in the countries where the plans are also designed to bring about structural changes, there is no intention to exercise a detailed influence on all the various sectors and branches of the economy and the instruments of plan implementation are not radically different from the traditional instruments of economic policy. It appears, however, from the sub-sections on individual countries contained in Chapter V, that there are considerable differences of emphasis in the particular combinations of policy instruments adopted. Moreover, the slow evolution of forms of plan implementation in the west is still in too experimental a stage to be the subject of comprehensive appraisal, except for the special issue of the subordination of public sector activities to the general economic policy objectives embodied in the plans.

The peripheral character of planning as now practised in the west is in sharp contrast with its role in the east, where it is part and parcel of the economic system. This means that the very viability of the latter is affected by the consistency of planning techniques and by the efficiency of the instruments for plan implementation. In particular, the evolution of methods of plan implementation in eastern Europe, and the current attempts to adapt them to the changing conditions partly resulting from economic growth itself, cannot be properly understood without a detailed analytical account of the reasons underlying the need for such adaptations and modifications. Moreover, in these countries the plan directives are transmitted, through the appropriate intermediate bodies, right down to the enterprise. It is therefore hardly possible to separate plan implementation from the mechanisms of transmission and from enterprise management. This explains the detailed discussion of institutional arrangements and of the structure and role of the enterprise (industrial and agricultural) included in Chapter VI.

It was found convenient to deal with Yugoslavia separately in Chapter VII, mainly on account of the unique combination — introduced at a comparatively early stage of economic development — of extensive state and co-operative ownership with a relatively wide use of indirect planning methods.

* * *

The present study constitutes a preliminary, general survey of the more important features of the various planning systems and of the main problems confronting various countries. A number of important questions have been deliberately left aside, such as the planning of various sectors (for example, transport, education, etc.), the more detailed methods of estimating future demand for exports and for consumers' goods and services and the elaboration of regional plans. The scope and presentation of the study are such that the reader will not readily find in it a comprehensive account of the machinery of economic planning and management in any individual country. Lack of information, time and space would have ruled out so encyclopaedic an undertaking and in any case the subject matter is changing so rapidly that some of the factual statements and descriptions now included may soon be out of date or no longer hold true as a generalization valid for a group of countries.

The almost general tendency towards planning in western Europe and the continuous process of improvement and adaptation of planning in eastern European countries reflect the quest for rationality and continuity in economic policy-making. There would be, however, little point in trying to reach generally valid conclusions on any particular point, since planning techniques can hardly be appraised in a vacuum, closely connected as they are with the economic, social and political structure of each country. Indeed, the growing differentiation of planning techniques among the centrally planned economies themselves indicates that similarity of political and social systems alone does not guarantee perfect uniformity in this respect. This differentiation is even more pronounced than appears from a comparison of legal texts and formal arrangements; for the operation of planning machinery is also determined by informal arrangements and the human factor.

Nevertheless, a number of broad general conclusions may be tentatively put forward. It appears that, in most countries of Europe, the stepping up of the savings ratio and the mobilization of savings for growth do not constitute at present the major issue faced by the planners. Instead, the machinery of planning of east and west is confronted with new tasks. In the east these tasks are, on the one hand, the rationalization and improvement of the macro-economic planning process with more emphasis on the most efficient use of resources than on overriding priorities and, on the other hand, the improvement of micro-economic efficiency by relying on decentralized decision-making in all sectors where the limitations of detailed centralized planning have become apparent. In the west it is necessary to improve methods of plan-building and plan implementation in those fields where the market mechanism can hardly provide useful guidance—that is, in investments in infrastructure, basic industries, health and education, and, more generally, issues related to labour mobility, physical planning and regional development. It remains to be seen whether the most important current policy issue raised by creeping inflation and the related problem of income policies cannot be better approached, and possibly solved, within the framework of planning. It would be tempting to conclude that, notwithstanding the fundamental differences in their social systems, the two parts of Europe are slowly moving closer to each other in their search for an appropriate balance between market forces and planning. Moreover, the experience of Yugoslavia would tend to indicate that, when approaching such a balance, the centrally planned economies are also likely to be confronted with some of the problems of cost inflation experienced by market economies operating at full, or nearly full, employment.

Thus, the planners of various European countries can learn much from one another and it is hoped that the issues of planning discussed in this study will be found relevant by planners of all countries trying to cope with similar problems.

A priori, a study of the experience of planning in Europe might be expected to yield a very useful guide to planning in less-developed countries. In the event, this expectation is disappointed for various reasons. In the first place, the level of development and the structure of the economy in most European countries in the 1960s are very different from those prevailing in most of the underdeveloped world. This is so even in the less-developed countries of southern Europe, when comparisons are made by reference to such indicators as per capita income or the degree of diversification of foreign trade. These countries have a more developed educational system and are better off in terms of managerial and technical skill. They have also reached a higher degree of national integration with a basically different social structure, including a substantial middle class and a fairly developed administrative machinery.

The countries which were perhaps closest, both institutionally and from the point of view of the level of development and the structure of the economy, to the underdeveloped countries outside Europe were the less-developed eastern European countries (Albania, Bulgaria, Rumania and Yugoslavia and, to a lesser extent, Poland and Hungary) in the early postwar period, as well as the Soviet Union in the late nineteen-twenties. However, even these countries, with the possible exception of Albania, started off from a higher level of economic and educational development and found themselves soon after the immediate postwar reconstruction period and the early phases of industrialization in a situation where their problems were very different from those of the underdeveloped countries. Moreover, the human losses of many of these countries during the two world wars were such that they did not have to face the kind of demographic problems now confronting most non-European underdeveloped countries.

Thus, a more historically oriented approach in this study (i.e. more emphasis on the postwar reconstruction plans and early economic plans of the centrally planned economies) might well have yielded some interesting indications for other underdeveloped countries. Since, however, the study is mainly concentrated on *current* problems of economic planning in Europe, it was bound to deal much more with recent improvements and refinements of planning techniques requiring a very elaborate statistical apparatus and concerned more with the efficient use of resources than with rapid growth as a sole objective. Paradoxically, planning can only reach a high degree of technical complexity in countries which have attained a certain degree of economic maturity. This is so not only because of the elaborate statistical and administrative apparatus needed for such planning but also because in a country undergoing rapid structural change there is by definition a very high degree of uncertainty and instability of technical coefficients and other quantitative relations (which indeed characterized the early phases of planning in the Soviet Union and eastern Europe). In other terms, this study does not provide many immediately useful guidelines for planning the strategy of growth in a rapidly changing underdeveloped economy.

Although the European systems of planning as such are thus not readily exportable, techniques in particular fields (national accounting including material balances and input/output techniques, foreign trade optimization and investment criteria, etc.) could be of definite interest if adapted to the particular conditions of underdeveloped countries.

Finally, the reader must be warned that references to the "failures" and "successes" of the planning machinery should not be taken as value judgements on the general economic "performance" of a given country. Since planning is a "technique at the service of a policy",[5] its efficiency cannot be assessed in terms of general economic performance. A country may well achieve high rates of growth and/or a remarkable degree of stability in spite of deficient planning or indeed in the absence of planning. Conversely, even serious temporary economic difficulties in a country need not imply that the planning machinery has failed. Planning is not a magic instrument of economic success, but rather a potent tool for solving specific policy problems — if used with skill and determination.

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[5] R. Marjolin, speech to the Colloquium on Planning, Romer November 1962, reported in *Revue du Marché Commun*, Decembe, 1962.

CHAPTER II

THE OBJECTIVES OF THE PLANS

The aim of this chapter is not to review the various detailed quantitive targets and forecasts contained in the current or past plans of European countries, though some of these may be used for purposes of illustration. It is rather to review the principal objectives of economic policy pursued during the postwar period by the various countries by reference to the differing economic conditions of these countries at the start of the relevant plan period, to their " premises " of policy, and to other policy objectives embodied in the plans.

To discover the priorities actually accorded to the objectives of economic policy in the various countries it is not sufficient to look only at official statements — which often tend to be couched in terms which are excessively vague or which fail to indicate priorities among objectives (which may themselves be to some extent mutually inconsistent) — or even at the complex of quantitative targets and forecasts set out in the national plans. Frequently only an examination of the action actually taken by a government during a particular plan period can show what relative importance was in fact attached to the various objectives and related plan targets.

1. THE WESTERN EUROPEAN INDUSTRIALIZED COUNTRIES

The first general impression which emerges from a comparison of the statements of policy objectives contained in the plans formulated since the end of the Second World War by a number of western European industrialized countries[1] is one of similarity and, at the same time, of vagueness. All governments appear to have had the same basic objectives: full employment and a high rate of growth of national income, in a context of a balance-of-payments equilibrium and domestic price stability: most plans also mention the desirability of reducing income differentials among social groups and/or geographical areas.

It is difficult, on purely logical grounds, to conceive of a policy which does not have as an aim the maximization of a social welfare function — subject, of course, to constraints imposed by political or other considerations. If such a welfare function could be formally established in adequate detail and with sufficient reliability, the difference in the relative emphasis given by the various plans to different objectives would be apparent from the values of the coefficients attached to the variables (for instance, the value attached to present versus future consumption, or to private versus public consumption). In the absence of such a formulation, an examination of the various objectives and of their relative importance has to be based on an exegesis of the plan documents and of other relevant official statements and on an examination of the action taken or proposed by governments in execution of the plans. The latter can help to reveal both any inconsistencies between the declared objectives and the policies pursued and also the relative importance attached, in practice, to the various objectives. But allowance still has to be made for the possibility that the original priorities, objectives and targets may have had to be revised in the light of unforeseen changes in external conditions.

In all plans, it is possible to discern two orders of objectives. On the one hand, there are the ultimate aims (for example, full employment, rapid rate of growth of national income, more equitable income distribution); on the other hand, there is the choice among the various subsidiary goals consistent with these ultimate aims. By comparison with the ultimate aims, these " second order " goals or targets have a certain instrumental character; but they, more than the ultimate aims, constitute the real substance and provide the distinctive features of the various plans.[2] Some of these subsidiary goals may themselves be linked in a causal relationship, so that, in effect, one is a " policy instrument " for attaining another. For instance, keeping increases in the money-wage level in step with productivity changes may well be considered as a policy objective or target, but it may also be a means of achieving other objectives or targets (for example, a rapid export expansion). These " instrumental goals " are considered in this study as falling into the category of " objectives " or " targets ", and the term " policy instruments ", discussed in Chapter V, is used to describe the measures — administrative and other — that are used to promote their achievement.

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[1] For a list of countries, see Chapter I.

[2] " It is evident that there is a great difference in status between the various objectives. There are some very general and final ends, there are ends which are means to further ends, and there are ends which are part of more general ends. The ends of the latter two categories appear on the political platform as ends or objectives when they are considered sufficiently important to deserve a special status. There are only a small number of final policy objectives." (C. Weststrate, *Economic Policy in Practice*, Leiden 1959, p. 7.)

The "reconstruction" plans in France, the Netherlands and Norway

The first longer-term plans in the industrialized countries of western Europe were the reconstruction plans drawn up for the period 1949-1952 in Norway[3] and for 1948-1952 in the Netherlands, and the "Monnet Plan" for 1947 to 1952/53 in France.[4] Of the three, only the Norwegian plan was comprehensive, explicitly fixing quantitative targets for the major economic sectors and segments of demand; the Monnet Plan, by contrast, was centred on a few basic sectors and products. The industrial development plan of the Netherlands occupied an intermediate position: quantitative targets for manpower, investment and output were fixed for the various industrial branches and for industry and construction as a whole, but not for the other sectors.[5]

Differences in the approach to and objectives of planning in these three countries partly reflected differences in their economic conditions. All three had emerged from the war in situations of nearly full employment; but in the Netherlands the authorities were preoccupied with the problem of maintaining full employment in the face of a rapid growth of the potential labour force and of the likelihood of a reduction in the traditional net outflow of emigrants. In France and Norway, by contrast, the demographic situation was such that the rate of growth of output was bound to depend mainly on the rate at which labour productivity could be increased.

But despite this similarity between the employment problems confronting France and Norway,[6] other differences in their economic conditions caused the approaches of the two governments to diverge considerably. First, the much greater dependence of the Norwegian economy on foreign trade led the Norwegian planners to be more apprehensive than were their French counterparts about the possibilities of maintaining full employment in the face of possible deflationary influences from abroad, and also more concerned with the problems of avoiding a strain on the balance of payments and thus with preventing domestic inflation (whether in the form of excess demand or of direct pressure on the cost level). Moreover, whereas the French economy had stagnated in the decade before the outbreak of the Second World War (and the 1929 peak level of production was not, in fact, regained until 1951), the rate of economic expansion in Norway during the pre-war decade was relatively high and the pre-war peak level of output had been surpassed by 1946.[7] Thus, France faced an economic "modernization" problem — particularly in the basic sectors of production — that did not exist in Norway. Finally, Norway was much better equipped than France, in terms of its administrative apparatus, relatively abundant statistical information and political stability, to launch a comprehensive plan immediately.

The basic aim of the Norwegian plan was to arrive at the allocation of resources considered most appropriate from a national point of view, while keeping total domestic demand under close control. The desired allocation of resources implied, broadly speaking, a high investment ratio and the restraint of the growth of consumption, particularly of luxury consumption. The high rate of investment was at first justified by the need for rapid postwar reconstruction; but thereafter the Norwegian authorities remained convinced that a high investment ratio was the key to a rapid economic growth and the development of national resources (including the development of the relatively backward regions of the country).[8] It was realized that the desired rate of investment would require a substantial import surplus, and this was set about the maximum that was considered could be borrowed on satisfactory terms without giving rise to an external debt burden that would strain the balance of payments in the longer term.[9]

Both technical and political difficulties discouraged the French authorities from producing a comprehensive medium-term plan of the Norwegian type. The French plan was launched under the slogan "*modernisation ou décadence*"; but it specified that "it is not a case of doing everything but of making all things possible", and it stressed that a prerequisite for the achievement of ambitious goals in the long-run development of the economy was a preliminary concentration on investment in, and modernization and expansion of, a few basic sectors (such as electric power and steel production).[10]

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[3] A preliminary reconstruction programme was already published in Norway as an annex to the State Budget 1945/46, *Nationalregnskapet og Nasjonalbudsjettet*, Saerskilt Vedlegg Nr. 11 til Statsbudsjettet (1945/46).

[4] The plans prepared by a much larger group of western European countries in the framework of the European Recovery Programme are not dealt with in this study because few of them appear to have had any significant long-run effect on the economic policies of the countries concerned.

[5] For the other sectors, only employment figures were published. The estimate of employment expansion in non-industrial sectors was, clearly, one essential basis for determining the magnitude of the industrial development programmes (see also Chapter III). However, a comprehensive development plan had been drawn up, but not published, and served as a framework for the industrialization plan.

[6] In France, however, the concern with the shortage of manpower as a bottleneck to expansion was greater than in any other country. The following reference to the textiles industry — a laggard industry which, in most countries, has encountered the problem of finding alternative employment for a potentially surplus labour force — is revealing in this respect: "At present the manpower shortage and recruiting difficulties make an increase in productivity absolutely indispensable. There is a number of conditions which will have to be met and which we shall have to consider; they relate to an improvement in the quality of raw materials, the modernization of equipment, an improvement of methods of production and, lastly, the organization of work." (Commissariat Général du Plan de Modernisation et d'Equipement, *Premier Rapport de la Commission du Textile*, Paris, October 1946, p. 25).

[7] For a comparison of growth rates of gross national product in the two countries over a long period, see the *Economic Survey of Europe in 1961*, Part 2, Chapter II.

[8] *Ibid.*, Chapter VI, section 3.

[9] P. I. Bjerve, *Planning in Norway 1947-1956*, Amsterdam 1959.

[10] Such an approach aroused criticism from many quarters. "Critics of the plan have often poured scorn on the folly of embarking on schemes of long-term basic investment at a time when consumption was still well below pre-war levels; better, it was suggested, to disperse investment funds on a multiple of smaller projects which could yield quicker returns in the form of consumers' goods and exports. The official answer given to this was that, until the base of the economy was broadened, all future efforts towards expansion would come up against bottlenecks: therefore basic investment must come first. . . . In this respect, the reasoning of the

Not only was the introduction of modern technology and management methods an end in itself, but the limited opportunities open to the French authorities for raising the volume of inputs forced them to concentrate on raising factor productivity.[11] Manpower was already fully (even if not rationally) occupied; proposals for the immigration of a large number of foreign workers were never put into effect; measures to induce a large transfer of manpower from agriculture were not seriously considered. Political conditions and social considerations militated against either of the last two expedients, and also combined with inadequacies in the fiscal and credit mechanism, in the early years, to make it virtually impossible to devote to productive investment a share of total output as large as was absorbed for this purpose in Norway.

The original terminal year of the Monnet Plan was postponed from 1950 to 1952/53 and, partly for this reason, quantitative targets were more than once revised. The list of basic products was enlarged to include, for example, non-metallic ores, paper and pulp; and special investment programmes were established for merchant shipping and tourism in consideration of their importance as earners of foreign exchange; but the character of the plan — the concentration on modernization and expansion of the basic sectors — did not substantially change.[12] The goal of monetary stability was in practice treated as of lower priority, and was sacrificed to the growth of production both under the Monnet Plan and later (see below).

The Netherlands, like the United Kingdom and the Scandinavian countries, emerged from the war with full employment and a comprehensive system of financial and physical controls developed during the war for counteracting inflation and for allocating scarce materials. Like Norway, the Netherlands both enjoyed the political conditions and possessed the technical apparatus needed for comprehensive planning.

The first memorandum on the industrialization of the Netherlands stated that "among the most important economic problems with which the Netherlands is faced, now and in the years to come, industrialization holds a prominent position".[13] A rapid expansion of the industrial sector was considered essential to provide work for the fast-growing active population. In view of the inevitably heavy dependence of the Netherlands on foreign trade, and the necessity of improving the balance of payments in the face of rather poor prospects for the traditional exports of agricultural products, this industrial expansion had to be strongly export-oriented. The need to expand industrial exports rapidly and to improve the balance of payments meant that, in the early years, a relatively slow increase in the levels of both money wages and real wages were prerequisites for the success of the industrialization policy. Thus an appropriate and effective wage policy was an immediate — and indeed continuing — preoccupation of the Netherlands Government (see Chapter V). The importance of encouraging the development of industries able to compete on international markets, and of avoiding measures which might artificially raise the cost of living and thus make it difficult to stabilize or reduce wage-costs, were factors in the Government's decision to pursue policies of only mild agricultural protection, of low tariffs in general, and of a rapid liberalization of trade from administrative controls which, in turn, gave further importance to the goal of rapid export expansion as a condition of general economic growth.

The "development plans" in France, the Netherlands and Norway

It might have been expected that after the end of the immediate postwar recovery period, subsequent "development plans" would differ markedly from the "reconstruction plans" which had preceded them. In the three countries discussed above, the later plans certainly attached greater importance to such objectives as improving the regional balance of the economy, securing the desired balance of public as against private consumption and investment and promoting a more equitable income distribution. But some fundamental characteristics of the early plans remained unchanged. The emphasis on industrialization and the maintenance of price stability and the competitiveness of exports in the Netherlands, the continuing large share of resources

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originators of the Plan was very like that of the eastern European governments." (*Economic Survey of Europe since the War*, ECE, Geneva 1953, p. 79.)

[11] "Vital importance has been attached to the concept of productivity ever since the preparation of the plan for modernization and equipment began in 1946" (*Commissariat Général du Plan de Modernisation et d'Equipement, Deux Ans d'Exécution du Plan de Modernisation et d'Equipement, 1947-1948*, Paris 1949, p. 52). This concept is elaborated in the following passage: "Aiming as it does primarily at increased productivity, the modernization we have to undertake must consist not only in replacing the machinery of production; in many instances, methods will have to be brought up to date, if necessary, by a change in the structure of activities.

"In accordance with the long-standing practice abroad in both agriculture and industry, a closer interrelationship will, in particular, have to be established between scientific research and its practical application. If our country did not play its part in the discoveries being made throughout the world, its equipment, even if modernized on the basis of present techniques, would again rapidly become out of date.

"In general, the concern for efficiency must be ever present. Modernization is not a state of affairs, but an attitude of mind." (*Commissariat Général du Plan de Modernisation et d'Equipement, Rapport Général sur le Premier Plan de Modernisation et d'Equipement*, Paris 1947, p. 10.)

[12] The results of the Monnet Plan can be summarized in the following tabulation:

Product	*Unit*	*Output in 1952*	*Planned capacity 1952/53*	*Output in 1952* *Percentage increase over 1946*	*Output in 1952* *Percentage of 1952/53 target*
Coal	*Million tons*	57.4	60	16.5	96
Electric power . . .	*Million kWh*	40.8	43	77	95
Of which :					
Hydro-electric .		22.4	22.5	98	100
Crude oil	*Million tons*	21.5 [a]	18.7 [a]	668	115
Steel		10.9	12.5	148	87
Cement		8.6	8.5	153	101
Tractors	*Thousand*	25.3	40	1 230	63
Nitrogenous fertilizers (pure content)	*Thousand tons*	285	300	127	95

Source : Commissariat Général du Plan, *Rapport sur la Réalisation du Plan de Modernisation et d'Equipement de l'Union Française, Année 1952*, Paris 1953, p. 13.

[a] Throughout.

[13] *Memorandum on the Industrialization of the Netherlands*, p. 1. (Translation of Annex IV to the Explanatory Memorandum to Chapter X (Economic Affairs) of the 1950 Budget, September 1949.)

devoted to investment in Norway, the stress on increasing factor productivity in France are *leit-motivs* of all the subsequent plans of these three countries. Thus, although the priorities of the various policy objectives have naturally been adjusted in the light of progress made under past plans and of other changing conditions, the successive plans in these countries have represented a basic continuity of economic policy.

Both France and Norway started their second, third and fourth plans in 1954, 1958 and 1962, respectively. In the Netherlands, the second industrialization plan covered the period 1953-1957 and the third the period 1959-1962.[14]

At first sight at least, there appears to be a sharp difference between the first and second French plans, not only from a formal point of view (the second plan was a comprehensive one, covering the economy as a whole) but also because of changes in objectives. With the modernization of the basic sectors already well under way, the second plan aimed at a general and balanced development of the economy. In particular, investment in dwellings, which was severely restricted under the first plan in order to give priority to the basic sectors, was allowed to expand vigorously.[15] By the early fifties, the movement towards a closer integration of the western European economies had started — with the trade " liberalization " drive of the OEEC and the setting up of the European Coal and Steel Community — and was bound to accelerate; and thus problems of costs, of international competitiveness and of monetary stability became of increasing concern. In fact, this last goal was not achieved: excess demand in some years (at times the result of sudden increases in military expenditures), strong upward pressures on costs in others, and sometimes the two combined, resulted in a rise in the domestic price level during the fifties exceeding that recorded in any other industrialized western European country; and devaluations of the exchange rate were effected in 1957 and 1958 to assist in correcting the consequent deterioration of the balance of payments. These developments were in part a consequence of the ineffectiveness of measures applied in the attempt to limit excess demand and price inflation; but in part they reflect the real relative priorities of the various policy goals. The *Commissariat Général du Plan* and the *Commissions de Modernisation* continued to concentrate on the encouragement of economic growth based on economy of investment resources and high factor productivity — their efforts now being no longer confined to the basic sectors but progressively extended over the economy. Success required not only modernization of industrial technology and management methods, but also the conversion of French opinion from its pre-war mood of restrictionism into one of belief in continuous expansion and willingness to face competition. This change of attitude was achieved, partly because general deflationary measures were seldom effectively applied and most conflicts between the objectives of continuing expansion, on the one hand, and domestic price stability and balance-of-payments equilibrium, on the other, were settled — partly by accident, partly by design — in favour of continuing expansion.

In Norway and the Netherlands, differences between the objectives of the first plans, on the one hand, and the second and third plans, on the other, have been smaller than in France, consisting mainly in a lessening of the priority accorded to investment over the growth of consumption. In Norway, the investment ratio had been raised from about 31 per cent in the immediate postwar period to about 35 per cent of gross national product during the earlier years of the first plan.[16] A shift towards a more consumption-oriented policy had occurred as early as 1950 — to some extent imposed by circumstances — and had resulted in a slight decline of the investment ratio from 1950 to 1952. The National Budget for 1950 stated that consumption would be allowed to rise even at the expense of fixed capital formation; and import liberalization, and the prospect of rapidly declining American aid in 1951, also implied a reduction in the rate of increase of capital formation " even though it would have been economically rational to maintain a large import surplus in 1951 ".[17] In the three medium-term plans covering the years from 1954 to 1965, it has been stressed that a relatively rapid rise in the standard of living is one of the basic goals of economic policy; and they also provided for a rather faster rise of public than of private consumption. The 1954-1957 plan called for a smaller rise in investment than in consumption and the 1958-1961 plan for equal rates of increase. However, during the first period, higher priority than originally planned was given to industrial investment, and investment in shipping increased more than envisaged on account of the Suez crisis. (Consumption could nonetheless still rise about as fast as planned, since capital imports were also greater than envisaged.) Though the actual investment ratio in the period 1958-1961 was consequently slightly lower than in the preceding one, it was still the highest in industrialized western Europe.

In the Netherlands, too, a major effort to raise the gross investment ratio was made under the first industrialization plan, when it rose from 19 per cent to 25 per cent. In the second and third industrialization programmes the authorities continued to stress the importance of devoting an increasing share of total available resources to investment; and the ratio rose further, though very gently, as compared with the steep increase under the first industrialization plan. Over the decade of the fifties the Netherlands recorded the highest investment ratio in western Europe after those of Norway and western Germany; and industrial investment was virtually a constant share of the total, whereas in most other western European countries its share declined during the fifties.

As was shown in the *Bulletin* article, already referred to, the plans of the countries here under review were generally "over-fulfilled" in the fifties, in the sense that planned rates of increase of output, labour productivity, investment and foreign trade were, with few exceptions, exceeded. The rate of growth of output of manufacturing industry in the Netherlands was surpassed — in industrialized western Europe — only by the rates of western Germany and Italy.[18]

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[14] A long-term plan covering the period up to 1980 is now under preparation; but it is not the present intention of the Netherlands Government to prepare a fourth industrialization plan of the earlier type (see also Chapter III).

[15] Investment in dwellings in 1956-1957 absorbed about 22 per cent of total investment, against 15 per cent at the beginning of the fifties.

[16] On the basis of the Norwegian " gross gross " concept of investment and national product.

[17] P. J. Bjerve, *Planning in Norway*, Amsterdam 1959, p. 314.

Problems of regional balance were given high priority early in the fifties both in Norway (for the development of the northern part of the country) and in the Netherlands (in respect especially of the eastern regions);[19] but more recently there has been a change in the regional policies of both countries. In the Netherlands, until late in the fifties, regional policy was designed mainly to stimulate industrialization in a number of "development areas" suffering from structural unemployment, though migration of labour from these areas to highly industrialized zones was considered as one acceptable element in the solution of their problems. In the later approach to regional development, however, an attempt has been made to reduce the volume of this migration, first, because the emigration of the young increases the structural employment problem of the development areas in so far as the age structure of their labour force becomes relatively unfavourable and, secondly, because the flow has been towards the already congested provinces of north and south Holland which already harbour nearly half the total population. In Norway, a change in regional policy was announced in the current (fourth) plan; and the past concentration on the development of the northern part of the country is now to be replaced by a policy of assisting the poorer districts of all the regions.[20]

During the reconstruction period, when an extensive network of administrative controls existed in most countries and pressure on scarce investment resources, foreign exchange, etc., was intense, government action in all three countries inevitably strongly influenced the pattern of growth of production; and in France, particularly, the first plan — as indicated above — was essentially aimed at promoting the development of a few priority branches of industry. Subsequently, however, as the most serious structural problems were overcome and "bottlenecks" disappeared, the official attitude towards the detailed control of the pattern of development diverged in the three countries. In the Netherlands the Government confined its efforts largely to creating the necessary conditions for achieving satisfactory rates of expansion of the economy as a whole and to influencing resource allocation only among the broad categories of output and demand, whereas in Norway and France the medium-term plans also aimed at bringing about structural changes and, in the latter country, at a detailed influence over the investment pattern (see Chapter V). The successes of the Netherlands and Norway in progress towards their major objectives were briefly indicated above. In France the efficiency with which factors of production have been used has been among the highest in western Europe.[21]

The relative priorities of the latest plans for France and Norway, starting in 1962, are not easy to distinguish. The change of emphasis in regional development in Norway has been mentioned; the maintenance of a very high rate of investment (for the development of industry, energy generation and communications, and other public investments) — though a more rapid rise in consumption levels is now allowed for — is still one objective. In France a marked change of emphasis between the third and the current (fourth) plan is perceptible. The stress on industrial efficiency continues, but the emphasis has shifted somewhat from technological improvements to problems of income distribution, and of incomes policy as a means of wage-cost and price stabilization.[22] An improvement in the balance of regional development appears, for the first time, as a first-order objective,[23] though the complexity of the problems to be solved is such that the 1962-1965 period will have seen little more than the establishment of the basis of a regional development policy, which should bear fruit mainly under the fifth and subsequent plans. Another new feature is the emphasis placed on an increase in public investment and consumption in order to provide for "collective" needs, an emphasis which is repeated in the recent outline of the fifth plan. This appears to reflect not only the fact that some sectors of social consumption have lagged behind current standards of personal consumption — a

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[18] The following figures cover developments in industry in the Netherlands:

	1 Jan. 1948 to 1 July 1952	*1 July 1952 to 1 July 1957*	*1 July 1957 to 1 July 1962*
1. Employment (increase in thousands of man-years)			
Planned	125	105	140 *
Actual	135	208	127 *
2. Production per worker (increase as a percentage)			
Planned	23	15	12
Actual	23	23	18 *
3. Gross industrial production (increase as a percentage)			
Planned	34	22	21
Actual	35	40	27 *
4. Gross investment in industry (increase in billions of guilders)[a]			
Planned	5.8	8.5	11
Actual	5.5	9.3	12.7

Source : A Summary of the Eighth Memorandum on the Industrialization of the Netherlands, Ministry of Economic Affairs, The Hague 1963, p. 5.

[a] In prices of the beginning of the period.

[19] For a discussion of the first stages of these policies, see the SURVEY for 1954, Chapter 6.

[20] See the *Bulletin*, Vol. 14, No. 2, pp. 73-74.

[21] See the SURVEY for 1961, Part 2.

[22] The shift is, of course, linked with, *inter alia*, the implications of France's membership of the European Economic Community (see also Chapter V). Also high among the general objectives of the *fifth* Plan (as proposed in the report of the Commissaire Général issued in September 1964) is the strengthening of the technical and financial basis of French enterprises, which is considered important in the light of the progressive liberalization of international capital movements — especially within the EEC. In many sectors this is expected to lead to a process of concentration and the existence of a very small number of firms (in exceptional cases, a single firm), since "unless there are enough groups of international standing capable of providing French industry with a solid structure, it would be unwise to count on its being able to preserve a sufficient degree of independence". "Rapport sur les principales options qui commandent la préparation du V^e plan", *Journal Officiel, Lois et décrets*, 23 December 1964, p. 11,431.

[23] It was an objective of earlier plans also — specifically since about 1955 — but has received only relatively low priority in practice (see also Chapter V).

phenomenon common to most of the richer countries in Europe and elsewhere — but also some concern with the tendency of affluent societies to "waste" resources on "trivialities and futilities".[24] The relative priorities accorded in practice will, of course, become fully apparent only as implementation of the fourth (and eventually fifth) plan proceeds.[25]

Planning objectives in other industrialized countries

Apart from France, the Netherlands and Norway, the only other industrialized country of western Europe with fairly long plan-building experience is Sweden. A group of experts appointed by the Government prepared, in 1950, a "prognosis" for the period 1951-1955 and similar forecasts have been prepared for the periods 1956-1960 and 1961-1965.[26] The Swedish "plans" are published under the sole responsibility of a group of experts, but assume that the objectives to be attained are those indicated in government declarations and policies.[27] It should be noted, however, that the objectives of economic policy in Sweden have been of a very general nature — full employment, steady economic growth, balance-of-payments equilibrium, the pursuit of certain objectives of social development etc. — which, since 1950, have never appeared to require any drastic changes from the likely pattern of growth of output or the use of resources. The forecasts do not spell out the implications of clearly defined and detailed goals which the Government seeks to achieve, but rather attempt to bring to light any imbalances which might seem likely to result from the policies actually being followed, to test the reliability and consistency of forecasts prepared by public and private organizations for their own fields of activity and, in general, to assist in putting economic policy on a more rational basis. It is suggested in Chapter V that these plans do influence the long-run process of economic development to some extent, despite the fact that they are never formally accepted by the Government as a statement of its desires or expectations regarding the future rate or pattern of growth.

In the first four years of the current decade the number of industrialized, or semi-industrialized, countries which have entered the planning field has notably increased: Belgium, the United Kingdom, Iceland, Ireland, Finland and Italy have prepared, or are preparing, longer-term plans. The first two countries have already published plans or programmes for the period 1962-1965 and 1962-1966, respectively, and the others have published, or are preparing, longer-term plans extending to 1970 or beyond.

In both the United Kingdom and Belgium, growth rates of 4 per cent a year are planned. During the fifties, the United Kingdom recorded an annual rate of growth of gross national product of 2.5 per cent, and Belgium one of 3.0 per cent; the achievement of a more rapid economic growth appears to be the primary objective of the plans. In both countries, it is seen to depend on the stimulation of a higher investment ratio, as well as on other subsidiary goals, including, in the United Kingdom, a rate of growth of exports exceeding that of national product — essential for a satisfactory balance-of-payments equilibrium.[28] In both Finland and Italy, on the other hand, the solution of "structural" problems has been made the central objective. In neither of the two countries is a further speeding up of the (already high) rate of growth of total output envisaged.[29] The Finnish plan aims to broaden the country's industrial base by lessening dependence on the timber, pulp and paper industries and greatly expanding the mechanical and chemical branches.[30] This is regarded as essential if regional differences in levels of development and income are to be reduced and full employment of the rapidly increasing labour force assured.

Italy

The outline of a five-year development plan for Italy (1965-1969) followed a report drawn up by a committee of experts, but as pointed out in Chapter III (section 2), at the time of writing it did not have any formal status. The basic objectives and targets may therefore be subject to further review and perhaps modified (at least with respect to relative priorities).[30a] The development programme, in the form in which it was originally presented, sought to remedy the deficiencies in infrastructure and social investment (for example, in transport, education, health and housing) that have accumulated despite and, in some cases, because of the rapid economic development of the last decade. Consequently, urban and regional planning were given considerable attention in the programme, though these are topics the treatment of which still depends on the political willingness to adopt appropriate policies. Furthermore, sectoral and regional disequilibria, such as disparities in per capita income, have even sharpened as a result of the faster growth of the industrial sector, which is predominantly located in the north. Hence, the proposed programme also aims at an accelerated development of the south. It envisages that almost one half of the total of 1.5 million new jobs that are to be created outside agriculture will be in the south but that, even so, that region will remain one of net (though less rapid) emigration. The anticipated national rate of growth of GNP, a minimum of 5 per cent annually, is not substantially below that experienced during the 1950s. A further objective of the plan is the attainment of equilibrium in the current balance of payments by the end of the period.

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[24] See, for example, P. Massé, "Histoire, Méthode et Doctrine de la Planification française" (*La documentation française*, Paris 1962 — supplément aux *Notes et Etudes Documentaires*), and in particular, "La France et le Gadget".

[25] The greater emphasis on "collective" needs, regional development and income distribution explains the inclusion of the word "social" in the title of the fourth plan.

[26] As early as 1946 a prognosis was made for socio-economic and state financial developments 1946/47-1951/52, see *Kungl. Maj:ts proposition Nr. 222* (Annexe), Stockholm, April 1946.

[27] See the *Bulletin*, Vol. 14, No. 2, pp. 59-60.

[28] See National Economic Development Council, *Growth of the United Kingdom Economy to 1966* and *Conditions Favourable to Faster Growth*, HMSO 1963.

[29] Structural change is a key objective of planning in Ireland. As noted below, in both that country and Iceland a rate of growth faster than in the pre-planning period is also sought.

[30] See the *Bulletin*, Vol. 14, No. 2, p. 77.

[30a] Since this text was written, the draft of a revised plan for 1965-1969, drawn up by the Ministry of the Budget, has been released to the Press, and is to be submitted shortly to Parliament. (See *24 Ore*, 23 December 1964 and subsequent issues).

Ireland

The first programme for economic expansion in Ireland, launched in November 1958, sought essentially to "redefine the objectives of economic policy in the light of present-day and probable future conditions".[31] In particular it represented an attempt to take the country out of a prolonged period of virtual economic stagnation, during which net emigration had continued to have a dampening effect on activity. No specific targets were set, either for the growth of the economy as a whole, for that of its various sectors or for the components of final demand, but it was tentatively assumed that a successful implementation of the proposed policy measures might result in an annual growth rate of 2 per cent. Such a figure hardly appeared too modest by Irish standards, but in the event growth in the period 1959-1963, at 4½ per cent per annum, was more than double this rate. More important than the target rate of expansion, however, was the objective of providing the Irish economy with a new stimulus and making a revision of economic policy in this light. Hence the programme was seen as "an outline of the more important contributions, direct and indirect, which the Government proposed to make to prospective economic development in the years immediately ahead",[32] taking into account membership of the European Free Trade Association of Ireland's principal market, the United Kingdom.

The principles governing public expenditure on both current and capital account came in for special critical appraisal, and the programme called for a major switch towards productive public expenditure in the sense of "yielding an adequate return to the community in competitive goods and services". Further improvements in the social services were to be related to the growth of national income, and subsidies reduced to the minimum necessary "to secure a permanent increase in economic production". Consumption would not be allowed to grow so fast as to cause balance-of-payments difficulties which, in turn, could reduce the availability of capital for development; nor would policy seek an accumulation of external assets. Measures for improving the productivity of agriculture, including improved credit and subsidies for inputs (rather than a greater degree of price support), were proposed. Financial support for industry (capital grants, tax allowances, official credit, etc.) gave preference to enterprises producing for export, and an attempt was made to attract direct foreign investment. Tariff policy was revised so that new domestic industries would enjoy some protection only if there was a prospect of their viability after a short initial period. It was announced that the existing tariff wall would be gradually scaled down.

The second programme of economic expansion, which covers the period 1964-1970, was published in outline in August 1963 and, in greater detail, in July 1964.[33] It pays tribute to the first programme in achieving a "pronounced change in national mentality". It retains the basic principles of the first programme, but is more comprehensive than its predecessor and includes major quantitative targets for both output and demand. Its primary aim is to raise gross national product during the period by more than 4 per cent annually (i.e. at about the same rate as in the last four years), through a growth in employment of 1.1 per cent and in productivity of 3.2 per cent. While it is planned that agricultural output will expand at 3.8 per cent annually (accompanied by a fall in employment), the target for industry is set at 7.1 per cent (with an employment increase of 2.9 per cent and productivity improvement of 4.1 per cent), emphasizing the need to broaden and deepen the industrial base.[34] Such an expansion of employment would help to reduce emigration. Of the various components of final demand, current government consumption is to rise the fastest (6.4 per cent a year in volume), reflecting the priority given to expenditures on education, training and other forms of "investment" in human capital, and gross domestic capital formation is also to increase faster than national product. Private consumption is planned to grow at 3.6 per cent per annum. It is felt that any faster rise would call for a higher deficit in the balance of payments than can be sustained, in spite of the prospect of more direct foreign investment and of borrowing from international institutions.[35]

Iceland

An economic programme for Iceland for the period 1963-1966 aims at sustaining a rate of growth of 4 per cent per annum.[36] This is no faster than the average achieved between 1954 and 1962, when protection, controls and price distortions were regarded as the main factors impeding more rapid expansion. However, to aim at a higher rate was considered inadvisable, since neither the changes made in economic policy since 1960 nor increased efforts by employers and employees were expected to yield immediate results, and prospects for exports were uncertain. In view of the improvement in the balance of payments between 1960 and 1962, it was possible to give a lower priority than before to the need for strengthening the foreign exchange position, thus releasing more resources for domestic use. The programme proposes that the growth of private consumption be kept below that of national product (3.8 per cent in volume annually, or 2 per cent capita), so that domestic capital formation can increase at 6.1 per cent per annum and public consumption by 5.7 per cent. In the public sector special emphasis is placed on investment in electric power, roads, ports and public buildings, for which a volume rise by 1966, over the average for the period 1957-1961, of 60 per cent is foreseen. In view of the large-scale investment in recent years in some sectors of private industry (notably fishing), the corresponding target is an increase of 13 per cent ; the level of housing construction will remain unchanged. The programme assumes the availability of external finance to cover the gap which remains even on the assumption of a higher growth of exports than of national product.

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[31] *Programme for Economic Expansion* (Pr. 4796), Dublin 1958.

[32] *Ibid.*

[33] *Second Programme for Economic Expansion* (Pr. 7239), Dublin 1963. Following consultations with the principal functional organizations, details of the second programme (and in particular of the policies to be pursued in the major sectors and the plans for public capital expenditure) were given in a further document, published in July 1964. (*Second Programme for Economic Expansion, Part II* (Pr. 7670)).

[34] Output per person in agriculture would thus rise faster than in other sectors, thus narrowing the gap between incomes in agriculture and in other occupations.

[35] The deficit on the current balance of payments anticipated for 1970 is equivalent to 1.8 per cent of national product. It is assumed that by 1970 Ireland will have become a member of the European Economic Community. With this prospect in view, and in line with the policy of reducing the protection enjoyed by Irish industry, industrial tariffs have twice been unilaterally cut by 10 per cent; it is hoped to reduce them altogether by about one-third by January 1965, with further progressive reductions thereafter. Furthermore, a Committee on Industrial Organization was established in mid-1961, to make recommendations for improving the international competitiveness of Irish industry. Following recommendations made by survey teams of the Committee for certain industries, Adaptation Councils have been set up by the industries concerned, to promote co-operative action for meeting the challenge of greater competition from imports. Similarly, special teams have investigated and reported on different sectors of agriculture.

[36] *Iceland: Economic Program 1963-1966; Statement by the Government to the Althing*, Speech by Mr. Ólafur Thors, Prime Minister of Iceland, Reykjavik 1963.

With the time and data available it was not possible to produce sector programmes for output (and for investment this was done only by broad categories). Therefore, the programme does not give any indication of the composition of domestic output required to meet the expected pattern of demand.

2. THE SOUTHERN EUROPEAN COUNTRIES

With the exception of Turkey, longer-term planning is a fairly recent experience for the southern European countries. However, all of them have prepared, or are currently preparing, such plans. As was pointed out in section 1 above, on the surface the major objectives of policy in the southern European countries seem to be very similar to those of the industrialized countries of western Europe — sustained economic growth, a high level of employment and a rise in the relative income levels of the most backward regions and least favoured social groups. But these objectives are bound to imply much greater changes than in the industrialized countries in the structure of the economy and in the pattern of national expenditure — a higher share for investment, and particularly for industrial investment, and for some social expenditures (on education and training, for example). The need to industrialize is imperative. The likelihood of technological advance in agriculture in these countries is bound to result in this sector releasing labour as development proceeds ; and rather more than the increment in the total labour force will have to be absorbed into non-farm occupations for many years to come if "full-employment" is to be reached and under-employment reduced. Moreover, the pattern of industrialization must be such as to permit a rapid rise of exports of industrial products. None of these countries is of such a size, or disposes of such a variety of resources, as to be able to avoid a relatively heavy dependence on international trade ; given the rather poor world-market prospects for their agricultural products, industrial exports must be developed to cover their rising import needs.

To bring about the structural changes needed in these economies will require more initiative on the part of governments than may be considered necessary or desirable in market economies, which have a higher level of industrialization and of per capita incomes, and where entrepreneurship and industrial experience are more highly developed. Yet most of the former countries have either dismantled many of the traditional administrative controls or have announced their intention of reducing the scope of such controls.[87] In general, all the governments concerned have emphasized that detailed state control and direct state industrial and other productive activity will not be permanently extended. Thus, an effective influence on the part of governments, in favour of economic development, is likely to depend increasingly on their ability : to provide the necessary infrastructure ; to improve the efficacy of the instruments of policy traditional to a predominantly market economy, so as to assure the availability of financial and real resources for the desired investment and to maintain the necessary background conditions (in terms of a pressure of demand which provides a sufficient stimulus to domestic activity without producing balance-of-payments difficulties) ; and to provide the encouragement and advice needed to evoke an effective private initiative on which so much reliance is to be placed. For some time to come, however, more than "encouragement and advice" will probably be needed in many fields and the governments are prepared, in varying degrees, to intervene more directly if this appears to be necessary.

The instruments of plan implementation available or proposed in the countries under review are discussed in Chapter V. Here it is only necessary to stress that the fact that a "liberal" approach to planning has now been adopted is of significance for any consideration of the policy objectives and plan targets. In the terminology adopted in Chapter I, each of the governments of the southern European countries has accepted certain "premises" of economic policy which rule out the use of certain policy instruments ; these "premises" help to set the limits within which the various targets and forecasts can reasonably be established. In other words, the chosen "mechanism of development" is given the status of a plan goal. Thus, targets for investment and for public consumption, for example, have to be set so as to leave a sufficient volume of resources to meet the demand for personal consumption generated by rising employment and personal incomes. Consumer demand cannot be restrained by rationing; nor can it be allowed, uncontrolled, to cause domestic price inflation, with the risk of impairing the economy's competitiveness in export markets and/or an extension of import controls which would itself tend to delay the adjustment of domestic industry to a fully competitive world market — one of the long-term objectives of policy. Thus, the "mechanism of development" chosen provides part of the explanation for the very moderate increases in employment envisaged in some of the plans — for example little more than 1 per cent a year in Greece and only 0.5 per cent a year in Portugal — while labour productivity is planned to rise much faster.

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[87] Among the controls being progressively dismantled are those relating to external trade. Actual or intended trade " liberalization " is connected to some extent with Portugal's membership of EFTA, the association of Greece and Turkey with the EEC, and with Spain's interest in the possibility of similar links with the Community.

The objectives of the current plans

Turkey

As indicated above, Turkey has the longest planning experience of any of the southern European countries. The first Turkish development plan, approved by the Government in January 1934, was intended to raise the standard of living and ease the strain on the balance of payments, essentially by increasing production capacity for those consumers' goods which formed a large part of the import bill; it gave little attention to the output of producers' goods. The second Five-year Plan, starting in 1938, changed the emphasis somewhat in favour of the latter goods. Its main aims were the exploitation of the country's natural resources and the establishment of heavy industries based on domestic coal and iron ore supplies; attention was concentrated particularly on the development of fuel and power production, mining, some engineering branches and transport facilities. It also represented the first attempt to spread industrialization to the hitherto neglected eastern regions of the country.[38]

These two development plans were basically *étatist* in concept, giving monopoly rights to the state enterprises created to undertake the development planned in certain fields. These included the *Sümerbank*, created in 1933 as a holding company to control the newly created textiles enterprises, and the *Etibank*, founded in 1935, with the development of mining as its principal function. Finance for both development plans was intended to be provided mainly from domestic sources.

The latest Turkish Plan, covering the period 1963-1967, and the main targets of which were reviewed in a recent issue of the *Bulletin*,[39] was approved by Parliament in 1962. More comprehensive than the pre-war plans, its principal aim is to accelerate the process of industrialization; industrial output is planned to rise by 12 per cent a year, compared with 4 per cent for agricultural output. This is expected to require a rise in the gross investment ratio from 17 per cent to 19 per cent (of gross national product) during the plan period, and a rise in domestic saving from an estimated 12.3 per cent of GNP in 1962 to 16.4 per cent in 1967, despite large (though decreasing) annual imports of capital. The share of public consumption in total national expenditure is also to increase as a consequence of rapidly rising expenditures on education and training and health services etc. Exports should rise in volume as fast as gross national product (by 7 per cent a year) and imports more slowly (by 5.5 per cent). The volume of private consumption per capita is planned to rise by only about 2½ per cent a year, and employment by 3 per cent.

Clearly the attainment of these objectives will call for a very skilfully co-ordinated use of the policy instruments available to the Government. The relative importance of direct public-sector investment is not to be increased, public and private investment rising at much the same rate; an improvement in the efficiency of state economic enterprises and a co-ordination of their investments are important goals of the Plan.

Greece

A number of plans and programmes were drafted in Greece during the fifties, but they can hardly be said to have formed the basis for an effective planning of the economy. The latest plan goes into detail for the period 1962-1966, with several key targets specified for the period 1962-1971 to serve as a general perspective.[40] As in Turkey, the main emphasis is on industrialization; and industrial output is planned to expand between 1961 and 1971 by nearly 8 per cent a year against 3½ per cent for agriculture.[41] Special attention is nevertheless given to investment in agriculture, since it is believed that the 6 per cent annual increase in farm output achieved with relatively low investment inputs during the fifties has virtually exhausted the "easy" possibilities of raising production. The return to industrial investment is also expected to be lower than in the fifties, when the opportunities for rationalizing industry with relatively small capital inputs produced a rapid rise in output — at a rate almost equal to that now planned.[42] The share of gross fixed investment (excluding ships transferred to the Greek flag) in gross national product is therefore planned to rise from 18½ per cent in 1961 to 22 per cent by 1966 and to 24 per cent by 1971, with private investment rising much faster than public outlays. But capital imports are planned to rise faster than national product up to 1966; public consumption is to absorb a constant share of gross national product; and, although the domestic savings ratio is planned to rise between 1961 and 1966 from under 18 per cent to about 20 per cent, private consumption per capita can thus rise quite fast — by 4½ per cent a year in volume up to 1966; employment is expected to increase by 1 per cent annually.[43] The Greek Plan emphasizes the importance, in the context of the association with the European Economic Community, of raising productivity and reducing costs rather than simply aiming at the creation of new employment opportunities.[44]

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[38] For details of these two plans, see the SURVEY for 1953, Chapter 6.

[39] Vol. 14, No. 2, pp. 57 *et seq*. Owing to later revisions, there are discrepancies between data in the plan as published and the preliminary data used in the preparation of that article.

[40] A first programme, drafted in 1953, covered the period 1952-1956; a second, prepared in 1956, covered the years 1955-1959; a third programme was formulated in 1958 for the five-year period 1958-1962. This was then replaced by the 1960-1964 programme (within a ten-year perspective), which in its turn was revised to cover the period 1962-1966. Work is currently proceeding on a programme for 1965-1969.

[41] If an average of the years 1960 and 1961 is taken as a base (the latter year being exceptionally favourable for agriculture), the annual growth planned for agricultural output falls to 2.7 per cent.

[42] See the SURVEY for 1959, Chapter VII and the SURVEY for 1961, Part 2, Chapter III.

Portugal

Portugal was the first of these countries to adopt a postwar development plan; it covered the years 1953-1958. But this plan was essentially an attempt to co-ordinate public infrastructure investments (about 20 per cent of all investment) rather than to provide a comprehensive programme. The current plan, covering the period 1959-1964, takes in the whole economy. Its major quantitative goals are more modest than those set in Greece and Turkey — a 4.2 per cent annual increase in the volume of gross national product (compared with 6 and 7 per cent respectively in the latter two countries), with investment (a constant 18 per cent of gross national product) rising at the same rate and employment increasing very slowly. However, the domestic savings ratio will have to rise in Portugal also, from 11.7 per cent of gross national product in 1959 to 16.4 per cent in 1964, since the balance-of-payments deficit is planned to fall. A change in the pattern of investment is planned towards a smaller share for infrastructure and a larger share for directly productive outlays, and a salient aim of the plan is to raise the efficiency of use of the capital stock. The Portuguese authorities stress not only monetary stability but even " budgetary equilibrium " as conditions for expansion without inflation, and reliance on " adequate " economic policies for the private sector, rather than more direct Government action, as means of inducing the planned rate of development.

In the course of 1963 a number of changes in the planning machinery were initiated (see Chapter III), and work started on the preparation of an interim investment plan (1965-1967) and a third development plan (1968-1973). The interim plan has been drawn up in the face of several fundamental problems confronting the Portuguese economy, the existence of which has been more fully appreciated in recent years, including the need to reorganize industry and to provide a more equitable distribution of the fruits of development.[45] It is proposed that gross domestic product should grow at an annual rate of 6.1 per cent in volume from 1965 to 1967 and at 6.5 per cent during the six-year period 1968-1973 (that is, at about the same rate as in the past four years). This is to be achieved mainly by a rapid expansion of industry, which, during the period of the interim plan, would be at the rate of 9.5 per cent a year (so that industry would account for 45 per cent of GDP by 1967), whereas agriculture and the tertiary sectors would grow respectively at only 1.2 per cent and 5.0 per cent a year. According to these forecasts, the share of the primary sector in the total labour force would fall to 38 per cent in 1967, from 42 per cent in 1962, while that of industry and of services would account respectively for 31 per cent and 32 per cent, compared with 28 and 30 per cent in 1962. However, the non-agricultural labour force is not expected to increase by more than 16,000 annually, an even lower rate than the minimum of 20,000 set for the second development plan. The volume of fixed investment would rise faster than GNP (8.1 per cent a year), to become 17.8 per cent of national product in 1967, while both public and private consumption would rise more slowly (5.2 per cent and 6.4 per cent respectively). Finally, it is assumed that the volume of imports will expand by 6.5 per cent per annum and exports by 8.3 per cent.

In all these projections it is assumed that the main basis for the future growth of the Portuguese economy lies in manufacturing and (the so far largely untapped potential of) tourism.

Spain

The first step towards some form of economic planning in Spain was taken in 1959, when a one-year programme for investment allocation was formulated; a second one-year Plan followed in March 1960. Both Plans — the second one to a greater degree than the first — were governed by two major issues with which the Government was preoccupied at the time — the need to check inflation and to improve the balance of payments and the international competitiveness of Spanish industry. Thus, the Plans were designed to change the structure of investment, rather than to raise its volume; and, in the administration of the various financial and other means of control, preference was given to agriculture, basic industries and those processing branches and services which promised a rapid increase in foreign exchange earnings.

In 1962, following the successful implementation of the stabilization programme and the report of the IBRD mission, the preparation of a long-term plan, for the period 1964-1967, was begun. The plan, published in December 1963, aims at a 6 per cent annual expansion of the volume of gross national product, which will require a volume rise in investment (supplemented by large capital imports) of 9 per cent a year.[45a] Structural changes in employment and output are a major objective of the plan, which foresees an absolute fall in agricultural employment and the creation of sufficient new jobs to absorb both the increase in active population and the transfer of labour from agriculture. At the same time, special emphasis is placed on the need to reduce the present regional inequalities of income, and seven zones of industrial promotion or development have been established, in which industry will receive privileged treatment. The plan sets mandatory goals for public expenditure and, on the lines of planning in France, indicates certain targets for the private sector. In the case of public expenditure, special attention is given to irrigation and other capital expenditures in the agricultural sector, as well as to education and manpower training.

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[43] For further details, see the *Bulletin*, Vol. 14, No. 2, *op. cit.*

[44] *Ibid.*, p. 74.

[45] The major tasks confronting the Portuguese planners were summed up by the Chairman of the Inter-ministerial Committee for Planning and Economic Integration at its first meeting. (See *Portugal: An Informative Review*, Lisbon, September-October 1963). They may also be found in the subsequent plan document, which, in addition to detailed targets for the interim period, gives the broad objectives of the third plan. (*Projecto de Plano Intercalar de Fomento para 1965-1967*, Presidencia do Conselho, Lisbon 1964.)

[45a] For an English version see *Summary of the Spanish Economic and Social Development Plan 1964-1967*, Development Plan Commission, Madrid 1964.

Cyprus

Planning in Cyprus dates from the attainment of independence in 1960, shortly after which a Planning Commission was established, with the initial task of preparing a development plan for the period 1962-1966. Pending elaboration of the plan, certain targets were announced for public expenditure in this period which, it was expected, might result in an annual growth in the volume of GNP of 5.5 per cent.[46] Work on the plan, and especially for the remaining years 1964-1966, was nearing completion when the communal hostilities broke out in December 1963. It is understood that it adheres to the growth target of 5.5 per cent per annum and pays special attention to agriculture, the concomitant problem of improving the supply (and achieving a more efficient use) of scarce water resources, and the promotion of tourism. It is thus hoped to raise agricultural productivity, in particular in the livestock sector, and to stimulate the growth of potentially viable light industries. In general, economic development is intended both to increase employment opportunities and to build up exports of goods and services (while continuing the pursuit of an open import policy) on a scale sufficient to support economic growth in the face of prospective reductions both in employment and in foreign exchange earnings from traditional sources.[47] (These are essentially exports of minerals and expenditure incurred by British service departments in the sovereign base areas.)

Malta

Finally, the island of Malta, which achieved independence in September 1964, has prepared with the assistance of a United Nations mission, a second five-year plan, to be implemented in 1964/65. The report of the mission attempts "to describe tentatively the steps required to make a successful transition [over a longer term] from a major naval bastion to a self-sustaining economy;"[48] it includes estimates of public expenditure for the five-year period, as well as of total fixed investment.

Comparison of southern European plans

Neither in Cyprus nor in Malta has the machinery for plan implementation yet been put to the test and no review of experience in these two countries is therefore included in Chapter V. Even in Turkey only one full year of experience with the 1963-1967 plan has so far been acquired, though 1962 was a year of transition which witnessed the application of an interim plan. As pointed out above, in all these countries, as also in Greece and Spain, a liberal approach to planning has been adopted, and a combination of consultation and persuasion on the one hand with fiscal, credit and other policy measures on the other is to be used for ensuring the necessary stimulus and encouragement to private initiative in the direction indicated by the plan. While in Spain public enterprises are not to be established in new sectors unless private enterprise fails to take up the challenge or there is a risk of undesirable monopoly situations arising, and while in Cyprus the public sector will not in principle engage in industrial activities, state enterprises in Turkey will continue to play a leading role in the implementation of the development plan.[49] In Cyprus public development expenditures are grouped together in annual Development Budgets, drawn up within the general framework of the plan. Economic policy is designed to create a more favourable climate for private investment (although this has been marred by communal strife) through public expenditure on infrastructure (including irrigation), improvements in the supply of credit and the granting of financial assistance for approved purposes in agriculture, industry and tourism. Both local and foreign firms are to be encouraged to invest in industry and tourism through tax concessions and guarantees covering the treatment of foreign capital. Tariff concessions, however, will be accorded only after critical examination to industries that appear viable in the longer run.

In Spain, the plan sets specific targets for the capital expenditure of the public sector, including both fixed asset formation within this sector and the provision of finance (in the form of loans, subsidies and grants) to the private sector. These expenditures are mandatory under the plan, whereas output and investment targets specified for certain private sector activities are "indicative". In the last two years many measures have been taken to facilitate investment in the private sector, to improve productivity and remove many of those obstacles that impeded structural change, particularly in industry, and which frequently had their roots in the former period of autarky. New legislation has reformed the credit and tax systems, opened the way to mergers and greater co-operation between firms, encouraged foreign capital (participation of which in Spanish firms had previously been restricted), liberalized many imports and, in general, opened up the economy to domestic and foreign competitive influences.[50] A large number of controls that were considered unnecessary (or actually harmful) for the implementation of the plan, have been abandoned.

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[46] See *Five-Year Programme of Economic Development*; *Address of the President of the Republic, Archbishop Makarios, to the House of Representatives on 21 August 1961.* This programme, which emphasized public expenditure on harbour and dam construction and on the supply of electricity, was regarded as providing only "the basic framework for economic development". (See also *Economic Bulletin for Europe*, Vol. 14, No. 2, *op. cit.*, Appendix I.)

[47] The general objectives of the plan have been outlined in the following publications: *Economic Review 1962*, Ministry of Finance, Nicosia, July 1963, pp. 11-16 (reproducing the statement of the Minister of Finance to the Economic Committee of the Council of Europe, Nicosia, 18 April 1963); and *Cyprus Today*, Sept.-Oct. 1963 (Greek Communal Chamber), which contains an article entitled "Planning for Economic Development in Cyprus" by A. Patsalides, Director of the Planning Bureau.

[48] *Economic Adaptation and Development in Malta*, 20 January 1964. Obtainable from the Commissioner for Technical Assistance, United Nations, New York. Since this text went to press the official plan, which departs in some respects from the assumptions and recommendations of the United Nations mission, has been published. (*Development Plan for the Maltese Islands 1964-69*), Malta 1964.

[49] For a discussion of the role of the public sector in industry, see Part 1 of the SURVEY for 1963, Chapter III, section 3b.

In most of the countries for which quantitative plan targets have been published — Greece, Portugal, Spain and Turkey — the current plans do not imply very significant accelerations of the rate of growth of gross national product in comparison with the average rate achieved during the fifties; apart from the Portuguese plan, they all aim at some reduction of the rate of unemployment or under-employment during the plan period, but they offer no hope of reaching full employment in the near future. Nevertheless, the current plans of Greece, Spain and Turkey, at least, appear to set fairly ambitious targets for overall growth rates, and for the investment which these will require, in the context of the more qualitative objectives of internal and external stability and of the measures of plan implementation which the governments are prepared to use.

In the second half of the fifties, rates of growth of output had been lower than in the first half in all the southern European countries for which reliable data are available, so that the rates now planned imply an acceleration compared with the recent past. Moreover, some favourable factors present during the fifties no longer exist — for instance the opportunities of extending cultivation to virgin lands in Turkey or of raising industrial output with relatively small "rationalizing" investments in Greece.[51] Thirdly, rapid development has, in the past, been associated, especially in Spain and Turkey, with serious inflations leading eventually to stabilization programmes which checked expansion. The present plans not only aim at accelerating the growth of output in increasingly difficult conditions but also at achieving this acceleration without inflation and in a framework of liberal economic policies.

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[50] For a fuller review of recent policies in Spain see Part 1 of the SURVEY for 1963, Chapter III.

[51] See the SURVEY for 1961, Part 2, Chapter II.

3. PLANNING OBJECTIVES IN EASTERN EUROPE AND THE SOVIET UNION

In the Soviet Union for almost four decades, and in the countries of eastern Europe for over fifteen years, the concept of economic planning has been that of a centrally directed and comprehensive system of management of the economy in the pursuit of a complex of related long-run political, social, and economic objectives. All these countries share a unity of ultimate aim, namely, the creation of communism, an economic and social order radically different from both capitalism and the transitional stage of socialism. From this unity of aim, founded on common acceptance of Marxist-Leninist doctrine, springs the conviction that one of the prime duties of government is to select and carry out a strategy of economic development which will lay the "material and technical basis" for communism. Consequently, economic planning is viewed as the means by which the economic and social transformation of society is effected, its *raison d'être* being the need to replace the "anarchy of production" under capitalism by "a planned organization of the social process of production in order to guarantee the welfare and full development of all members of society" under socialism.[52]

Between the identity of ultimate aim, however, and a striking similarity of political, social and economic organization, there is a large area for variety in the immediate objectives of economic plans from country to country; moreover, it is central to Marxian theory that the mode of economic organization — and hence the requirements of economic policy — corresponds "to the stage of development of [society's] material powers of production".[53] Understandably, therefore, the objectives of the postwar economic plans of the countries under review, and their attainment, have depended on the strategy of economic development chosen by each of them to facilitate the transition to socialism in its given economic conditions. Since, however, the criteria governing the choice of strategy are examined at some length in Chapter IV, they receive only very summary treatment in this section. Similarly, no attempt is made to review in detail the sequence and nature of the changes in the detailed economic policy objectives and plan targets in each country during the whole period of economic planning. Such a review would be impossible within the compass of this study, and has, to some extent, been provided in the ECE SURVEYS and *Bulletins* published during the past fifteen years. This section therefore sets out to do no more than identify the most important planning objectives in eastern Europe, briefly to consider their order of priority and those characteristics which distinguish them from the analogous objectives of western European plans, and to establish which elements of economic doctrine and practice in eastern Europe constitute "premises" of economic policy, as defined in Chapter I. Inasmuch as a distinction is drawn in these countries between the objectives of the plans as such and the objectives of planning in general, it is necessary first to consider the meaning attached to the expression "plan objectives" in the political economy of socialism.

Planning objectives and the political economy of socialism

The economic theory of socialism, as it is conceived in eastern Europe and the Soviet Union, has evolved a special vocabulary which calls for some elucidation if the use of the terms 'premises, objectives and targets' earlier in this Chapter, and in Chapter I, is to be sustained without causing misunderstanding.

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[52] V. I. Lenin, *Collected Works*, Co-operative Society for Foreign Workers in the Soviet Union, Moscow 1936, Vol. 6, p. 113.

[53] K. Marx, *A Contribution to the Critique of Political Economy*.

At the highest level of abstraction, the most general aims of planning in the countries under review derive from the principles of Marxist-Leninist doctrine explaining the process by which capitalist economic organization is transformed into, first, socialist and, subsequently, communist relations of production. Economic development during the period of transition is held to be governed by certain 'economic laws of socialism', among the most important of which is the 'objective, socialist economic law of planned, proportionate economic development'.

In the present context the contents of this and other economic laws of socialism are relevant only in so far as they constitute 'premises' of economic policy in the sense already defined. It appears that they do so in two ways.[54]

Observance of the need for proportionality in planning is considered to be an immutable imperative, and hence a premise of policy as defined in this study; but the proportions themselves are subject to revision as economic development proceeds, and they may therefore be regarded as sometimes constituting planning objectives. For example, the law of planned, proportionate economic development requires the observance in planning of a determinate (priority) relationship between the rates of growth of producers' goods and consumers' goods: the *actual degree of priority* accorded to the former in the plan is an 'economic regularity' (*zakonomernost*) which can vary over time with changes in economic circumstances. Until such time as the 'material and technical basis' of communism is assured, the rate of growth of output of producers' goods (Group A) should exceed that of consumers' goods (Group B);[55] industrial production should grow faster than agricultural output;[56] determinate proportions should exist between production and consumption, between consumption and accumulation, between production and accumulation, between the rates of growth of labour productivity and earnings, etc. If, in the course of development, disproportions occur, they are considered to be the product of inadequate planning — this concept covering also planning errors such as an undue, and too long maintained, concentration on heavy industrial development as compared with agricultural expansion, or an excessive priority for investment over consumption.

Certain other elements of eastern European economic doctrine are readily identifiable as premises of economic policy, and do not give rise to ambiguity. For example, a number of conditions are deemed essential for national economic planning to be possible. Such prerequisites include the collective ownership of the means of production and, at least in the earlier phases of construction of a socialist economy, the dictatorship of the proletariat; these conditions in turn make necessary such institutional arrangements as the state monopoly of foreign trade, the directive or mandatory character of planning, etc.[57]

At a lower level of abstraction in the hierarchy of the economic aims of policy are what are termed the 'tasks' (in Russian, *zadachi*) of planning, and which may (but need not) change at various stages of economic development. For the Soviet Union these tasks are stated to include progress, at high rates of development, of the national economy; an uninterrupted growth in the general level of consumption; avoidance of disproportions in economic development, and their rapid correction should they occur; the rational regional distribution of productive capacity; the creation of adequate economic reserves as a condition for assuring consistently high rates of development; and the strengthening of the defence capacity of the country.

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[54] The nature of the obligation of planners to conform to the requirements of the economic laws of socialism has varied over time. Throughout the postwar period, however, it has been maintained that all planning should be, in a sense, subordinate to these laws: "the most important scientific basis of planning is an understanding of the requirements of the economic laws of socialism, and the expression of the nature of their operation and application in the planned management of the economy" (M. G. Kolodny, A. P. Stepanov, *Planirovanie narodnogo khozyaistva SSSR*, Kiev 1963, p. 17; see also, A. I. Vikentev, *Razvitie ekonomiki SSSR i problemi proportsionalnosti*, Moscow 1963, especially pp. 81 *et seq.*). The economic laws are not regarded as the product of deliberate economic measures undertaken by the planning authorities; nor are they to be regarded as so powerful as to require the abdication by the state of its duty actively to regulate their operation in the planning of the economy. Examples of these two interpretations of the nature of the economic laws of socialism, which are described as 'voluntarism' and 'fetishism' respectively in contemporary Soviet economic literature, serve to indicate how the boundaries of the laws are delimited as premises of economic policy in the Soviet Union. The first view is stated to have been reflected in the attempt to write into the Second Five-year Plan (1933-1937) an annual increase in steel production of 11 million tons a year, when the actual annual increment was only 0.6 million tons, or in the denial of the 'objective necessity of the priority growth of the output of producers' goods' (*ibid.*). For a Polish interpretation of the scope and character of the economic laws of socialism, see Oskar Lange, *The Political Economy of Socialism*, Warsaw 1957.

[55] Between 1913 and 1960 the respective shares of groups A and B in total Soviet industrial production changed from 33.3 per cent to 72.5 per cent, and from 67.7 per cent to 27.5 per cent. The Twenty-year Programme, 1960-1980, foresees a further increase in the share of group A to 74 per cent by the end of the period (*Ekonomicheskaya programma stroitelstva kommunisma*, Editor V. I. Dokukin, Moscow 1964). However, the practical importance of this distinction may not be very great. Much depends on the borderline drawn between Group A and Group B. An increase in Group A production in relation to Group B as a consequence of a decision to process a higher proportion of textiles output into ready-made clothing, instead of passing them on to the shops to be sold as piece goods, does not represent any increased priority for investment over consumption, any more than would the more obvious increase in output of building materials destined for housebuilding. The economically significant orders of relative priorities have always been those accorded to major branches of production and categories of national expenditure.

[56] But the differential should not be excessive. The relatively very slow growth of output of agriculture between 1940 and 1952 (10 per cent) compared with that of industrial production (130 per cent) is recognized as having upset the proportionate development of the Soviet economy, thereby retarding the global rate of economic growth (cf. Kolodny and Stepanov, *op. cit.*).

[57] Today, in all the countries here under review, industry and transport are almost completely composed of state and co-operative enterprises, the residual private sector being largest in eastern Germany (about 2½ per cent of global industrial output, including about 9 per cent from semi-state enterprises); in agriculture, private farming still predominates in Poland, but co-operative, supplemented by state, farms are the rule elsewhere though output from the individual plots of co-operative farm households is everywhere a significant part of this total (see Chapter VI, section 5); state and co-operative enterprises similarly predominate everywhere in retail trade, though private trade accounts for some 11 per cent of turnover in eastern Germany; private investment is virtually confined to housing (and, in Poland, farm buildings and machinery) and nowhere has its share in total fixed capital formation recently been above some 10-12 per cent.

These 'tasks of planning' broadly correspond to what were described in Chapter I, with reference to western European countries, as the general objectives of the plans; but they are more abstract, and not strictly related to any specific time period. Even when they acquire a "concrete, historical character" in the medium- and long-term plans themselves, however, they retain a very general character. For example, the general aim of the Soviet First Five-year Plan (1928/29-1932/33) is stated to have been the establishment of the bases of a socialist society; and this was accomplished by the attainment of, *inter alia,* the following series of plan 'tasks': the creation of a heavy industry; the elimination of unemployment and agricultural overpopulation; the task of exercising indirect control over the non-socialist sector of the economy as a step towards its gradual transformation into a socialist mould; and the assurance of national economic independence.[58]

Some differences between the economic objectives of eastern and western European planning

It is evident from the foregoing discussion of the status of plan objectives in eastern Europe, and from the mandatory character of centralized economic planning, that many of the objectives which preoccupy planning authorities in western Europe either do not exist or are of secondary importance to the planners in eastern Europe. The contrast is greatest in respect of the objectives of those plans in western Europe (the 'first approach' discussed in Chapter III) which mainly seek to achieve full employment of manpower and capacity resources in the context of balance-of-payments equilibrium and domestic price stability.

Even when the objectives of those western European plans which are designed also to promote long-term structural changes in the economy, with sustained economic growth in the long run as the ultimate object (the 'second approach' described in Chapter III), are considered — and *prima facie* they would be expected to have more in common with eastern European aims — they are seen to differ significantly from those of eastern European plans.

In essence, these differences between eastern and western planning objectives result from (*a*) the differences in the ultimate aim, and contemporary form, of economic organization and policy; (*b*) the differences in the range of instruments of intervention and control with which the planners can operate. The very nature of direct or mandatory planning in eastern Europe enables the planning authorities to attach secondary importance to those magnitudes (the savings ratio, the propensity to consume, etc.) which in market economies constitute variables with which western European planners have constantly to come to terms.

The treatment of savings and investment, and of the related problem of ensuring stability, exemplifies the wide gulf between planning objectives in the two areas. In western Europe the planning authority has mainly indirect means at its disposal for regulating the global volume or composition of investment and — in the short run in particular — is liable to be constantly exposed to disequilibrium tendencies, particularly in the composition of demand. In short, the plan cannot ensure *ex ante* equilibrium between the flows of savings and investment. In eastern European countries, by contrast, the planning authority has at its disposal powerful instruments for directly regulating the total (or sectoral) wage bill, the price level, the rate of savings and the lion's share of investment, the volume of imports, etc. True, excess demand pressures or oversupply can and do occur in eastern Europe — excessive 'decentralized' investment being a clear and frequent example — but in principle the extensive control of all the 'commanding heights' of the economy which the planning authorities possess permits swift and effective action to correct such disturbances. When they occur, their effects can as a rule be limited to the sector in which they originate.

For example, if prices and wages are fixed — as a consequence of planning mistakes or of an unexpectedly bad harvest or for some other reason — in such a way that shortages and pressures on prices occur in the consumer-goods market, there are no automatic repercussions either on the flow of resources to other end-uses (investment or public consumption) or on the balance of payments.

The contrast between the employment policies pursued in eastern and western European plans also provides an example of the distinction mentioned above. The 'rational distribution and utilization' of labour resources is a continuing, and significant, objective of the eastern European plans. It is accepted that work is an obligation for every able-bodied citizen; and the planning authorities, in turn, are under an obligation to elaborate their plans on the assumption of full employment. However, this obligation is not strictly comparable with the objective of full employment in western European economies. In the Soviet Union overt unemployment was ended by 1931, during the First Five-year Plan, by means of industrialization and the collectivization of agriculture; and full employment had been achieved in the other eastern European countries by the beginning of the 1950s, though under-employment in agriculture, and to some extent in industry, persists in some degree in most of these countries (eastern Germany and Czechoslovakia are the main exceptions). Since the early 1950s, therefore, the employment objectives of the plans have been concentrated on the control of the redistribution of manpower resources (*a*) between agriculture and industry, and (*b*) between 'social' labour and 'personal' labour (i.e. people of active age engaged in household work and in cultivating private plots). Clearly, the pursuit of this objective is bound to be closely related to the means chosen for attaining other plan objectives; the rate of release of labour from agriculture to industry, or from one branch or region to another, is governed by the level and allocation of investment and the related targets for the growth of productivity, the length of the working week, the tolerable or desired amount of shift-working, etc.

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[58] Similarly, the Twenty-year Programme's aim of creating the material-technical basis of communism is stated to require the accomplishment of the following, very broadly formulated, tasks: "an unparalleled increase in productive capacity, raising production per capita to the highest level in the world; the attainment of the highest level of productivity in the world; the development of the production of material goods for the satisfaction of all the wants of the Soviet citizen, the achievement of the highest standard of living for the entire population, and the creation of the conditions for the transition, in the future, to distribution according to needs; the gradual transformation of socialist into communist social relations, the creation of a classless society, the liquidation of substantial differences between [the standard of living in] the towns and the country and — in the future — between [the rewards to] mental and physical labour; victory in the economic competition with capitalism . . ." (*Ekonomicheskaya programma stroitelstva kommunisma* (Editor, V. I. Dokukin), Moscow 1964). In connexion with the last of these aims, it is perhaps noteworthy that as early as 1925, before the beginning of the plan era, the XIV Congress of the Soviet Communist Party stated that the basic goal of economic policy was "to catch up with, and overtake, the highest indices of production in any capitalist country". This aim has since then been repeatedly reaffirmed — for example, the following quotation is from May 1958: "To overtake and to outstrip the economically most developed countries in per capita output — that is the chief task of the Soviet people and our Party" (N. S. Khrushchev, *For Victory in the Peaceful Competition with Capitalism*, Foreign Languages Publishing House, Moscow 1959, p. 193).

Not all these relationships are fully within the control of the authorities even in a highly centralized planning system, and in the postwar period of acute pressure on investment resources desired rates of growth of labour productivity dependent on relatively capital-intensive techniques have not infrequently been forgone for the sake of maintaining full employment.[59] Indeed, this is, in the last analysis, probably the most important difference between full employment as an objective in eastern and western European plans; in the former, if imbalances arise, full employment with comparatively slow rates of increase of productivity is more acceptable than unemployment with a perhaps swifter growth of productivity. By contrast, in western European economies, where the state is not the sole employer and where the employment policy of enterpreneurs cannot be co-ordinated *ex ante*, avoidance of the reverse situation is a primary objective of the planning authorities.[60]

The question remains, however, of determining the relative priorities attached to the numerous objectives of planning in eastern Europe listed earlier, both at a point of time — e.g. when a plan document is drawn up, or over a number of years — in a series of plans. This issue is examined at some length in Chapter IV; in what follows only the main features are noted.

The ranking of objectives and the choice of strategy

The division of the first Soviet Five-year Plan document, the prototype — in many respects — of succeeding Soviet and eastern European plans, into four major compartments entitled, respectively, (1) industrialization, (2) socialization, (3) economic independence and (4) employment,[61] provides an outline of the order of priority attached by the planning authorities to the various quantitative targets falling under each heading. Notwithstanding their interdependence, the sequence of the first three sets of objectives indicates the primacy of industrialization as a goal of policy and, consequently, the point of departure for the choice of a development strategy over time.[62] In its broadest outline, this development strategy which attaches to industrialization (and the 'reconstruction' — i.e. the raising to a higher technological level — of industry) greater importance than to other sectors rests on the Marxian model of economic growth (expanded reproduction) and its insistence on the need for the faster growth of output of producers' goods than of consumers' goods.[63] It therefore provides guidelines for the priority allocation of capital and manpower to heavy industry, within the industrial sector, and to industry as a whole in relation to other sectors of the economy. This, then, has been the point of departure for the chain of development strategy in all the eastern European countries since the introduction of central planning. But the determination of broad priorities among objectives within this general framework has been considerably influenced in each of them by the stage of industrial development at the outset of planning, and by the degree of success from plan to plan in attaining intermediate or transitional quantitative targets.

In all of these countries — as, indeed, in all economies setting out in the path of planned economic development — one of the first decisions to be taken has been the level of capital formation necessary for the achievement of the desired rate of industrialization, which involves the apparent conflict between the objective of maximum rate of growth of industrial output (see above) consistent with structural change and that of assuring a steady rise in the level of consumption. The manner in which the conflict between these objectives is resolved depends partly on the importance attached to the objective of maximization of the rate of growth of national product, and partly on the time period in which these goals are sought. Each of these considerations is taken up in very summary form below — with the *caveat* that differences in the economic conditions prevailing in each country at the start of each planning period reduce the value of generalizations.

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[59] In the 1950s employment plans in most of the countries under review were fairly regularly exceeded. One contributing, and to a certain extent unplanned, factor to this development has been the drawing of women into industrial and other paid employment. The principle of equal pay and equality of opportunity for men and women has been an incentive to women to seek employment; moreover, the resultant external economies, in terms of the full utilization of the urban housing stock, have presumably reduced pressure on investment funds for housing. For a full discussion of employment plans and problems in the early 1950s see the SURVEY for 1957, Chapter VII.

[60] This generalization requires qualification for more recent years, when labour scarcity on a national scale has become common in virtually all western European countries. In these conditions, the reconciliation of the preference of the planning authorities for full employment with that of the entrepreneur for labour-saving techniques has been easier, *ex post*, on the level of aggregate manpower planning than on the level of seeking regional or branch equilibrium.

[61] See G. Sorokin, *Planirovanie narodnogo khozyaistva SSSR.B*, Moscow, 1961, p. 179.

[62] Cf. also p. 14 above for a statement of the objectives of the first Soviet Five-year Plan.

[63] Cf. also V. I. Lenin, *The Development of Capitalism in Russia*: *The Process of the Formation of a Home-Market for Large-scale Industry*, Collected Works, Moscow 1936.

The maximizing of the rate of growth of national income has been a major economic objective during most of the period of economic planning in the countries of eastern Europe and the Soviet Union. For the greater part of the period this objective was interpreted specifically as the achievement of the maximum rate of growth of output of producers' goods; and, in practice, production targets for still more restricted branches or key items within this sector ('leading links') have been given an overriding priority: "In planning industrial output in the USSR, the system of priority, the principle of primary development of those branches which play the major role in the development of the national economy at a given moment, is used. Before the war, machine-building, metallurgy and the coal and power industries had such priority. Nowadays, along with the more progressive branches of machine-building and power, the chemical industry is in the forefront, whose task it is to provide agriculture with mineral fertilizers and light industry with chemical raw materials."[64] Everywhere, the expansion of the producers' goods branches, and of metallurgy and the engineering industries in particular, received overriding priority in the early 1950s; and the stated aim of the Hungarian Plan for 1949 to 1954 — to turn Hungary "into the country of iron and steel, the country of engineering, into an advanced industrial country" — was virtually duplicated in the other countries of the region.

The relative importance attached to the principal planning objectives in eastern European countries has changed during the postwar period *pari passu* with the development and diversification of their economies. These changes over time can be related to three main periods: the postwar recovery or reconstruction period; the "take-off" period, which in most countries encompasses the early years of the 1950s; and the third period since about 1958, which might be called the period of relatively more balanced growth. The main characteristics of the three periods were similar in all countries under consideration, and the evolution of their planning objectives moved broadly in parallel.

The length of the reconstruction period varied according to the extent of war damage and destruction of the productive capital stock. The main general objective in all countries consisted in restoring productive capacity to its pre-war level, with special emphasis on primary sources of supply; therefore, the prompt restoration of the transport system and the increase of agricultural output were pre-eminent among the main objectives. In the industrial sector, the main objective was the elimination of bottlenecks in current production, a start being made with the reconstruction in branches where war damage was minor in relation to surviving productive capital. The attainment of such objectives made possible a rapid increase of consumption to a minimum acceptable level, and to raise national income while maintaining a low capital output ratio and a moderate investment ratio. At the beginning of the period there were, of course, strong inflationary pressures, but these subsequently diminished towards the end of the period.

The second, "take-off", period radically differed from the first in respect of the main planning objectives. These were also different in the Soviet Union from the objectives of the eastern European countries: in the Soviet Union the aim was a return to normal pre-war policy under the five-year plans and the continuation of economic growth along the pattern previously established; in the smaller eastern European countries this period marked the beginning of a process of implementing the aims of rapid growth and thoroughgoing structural change. Hence, the main economic objectives of the smaller eastern European countries had much in common during the second period. Among these objectives, priority was given to a maximization of the rates of growth, and for that purpose — to maximization of the investment ratio accompanied by a very high concentration of investment in the industrial sector and in producers' goods industries in particular. This policy of investment concentration meant that the growth rates of other sectors were slowed down; in some sectors (infrastructure, agriculture, housing) the stock of fixed productive capital even contracted, owing to neglect of replacement investment. Thus, in order to start the stage of accelerated industrialization, the status of economic objectives resembled that in a 'western' economy in time of war,[65] with a mobilization of production factors into one concentrated direction, the pursuit of autarky, strong inflationary tendencies, and disinvestment in certain sectors other than the priority branches of industry. Drastic measures had to be taken to combat inflationary tendencies, resulting at least at the beginning of the period in a stabilization or in a lowering of the level of real wages. As in periods of war economy, the chosen set of growth objectives succeeded in moving the economies on to a path of accelerated industrialization; but clearly such a policy could be pursued for only a relatively short period of time. A growing number of basic economic disequilibria developed, and in time a general revision of planning objectives became necessary.

The third period of postwar planning, described above as one of a relatively balanced growth, had at first the character of a natural reaction to the extreme priority accorded to growth objectives in relation to equilibrium objectives during the preceding period. At the same time, planning objectives contained many elements of policy whose purpose was the correction of disequilibria resulting from distortions in earlier plans. First, per capita consumption standards had to be improved — which meant that, apart from increasing nominal wages, more attention had to be paid to raising agricultural output and production of consumers' manufactured goods. Second, the investment ratio had to be lowered, and investment redistributed more equally among economic sectors, so that the share of agriculture, housing and light industry appreciably increased. Finally, the diversification of industrial production and the development of new branches of industry, together with growing consumers' demand, speeded the transfer of emphasis from the aim of national self-sufficiency to foreign-trade efficiency objectives. In the smaller eastern European countries there was a growing conviction that foreign trade at that stage of economic development was becoming a major bottleneck to further growth.

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[64] A. Notkin, "The Planning of Rates and Proportions of Economic Development", paper presented to a United Nations Seminar on Planning Techniques for participants from developing countries, Moscow, 1 July 1964.

[65] Cf. O. Lange, *op. cit.*

But perhaps the most important change in planning objectives to occur during the 1950s consisted in a very pronounced shift from quantitative production problems towards problems of quality and of production costs. This shift has been manifest both in the many practical experiments conducted in recent years, and in the widespread discussion of the choice of improved incentives at the enterprise level. On the other hand, the problem of minimizing production costs has been linked with that of economies of scale and with the optimum scale of production in new industries; hence the growing interest in the international specialization of production. There has also been a shift towards attaching greater importance to technical progress as a factor of growth.

In recent years, the comparative uniformity of plan objectives which marked the early and middle years of the 1950s has given way to a more heterogeneous pattern, some countries (Hungary, for instance) pursuing further the aims described above, while special circumstances in others — notably the variety of labour-market conditions — have led to a revision of planning objectives.

Finally, it may be noted that, in the broadest terms, the salient objectives of planning in eastern European countries and the Soviet Union in the early 1950s were achieved. The desired transformation of economic and social institutions was carried out almost completely. Rates of growth of total output considerably exceeded those registered in most other European countries, and the desired priorities for heavy industry were made effective. But precisely because of the successful attainment of many of the earlier goals, the attribution of relative priorities to planning objectives in ensuing years has come to depend on the outcome of the debate on means of securing micro-economic as well as macro-economic efficiency. The increasing weight now given to efficiency of production and optimum growth as planning objectives is reflected in the current overriding concern with techniques of planning and plan implementation discussed in Chapters IV and VI.

CHAPTER III

METHODS OF PLAN CONSTRUCTION IN WESTERN EUROPE

1. INTRODUCTION

In this chapter the broad process of plan preparation in various western European countries is examined.[1] The administrative machinery which has been set up for the preparation of the plans is described in section 2, and the methods used in this process are discussed in the last two sections. The discussion of method is in two parts on account of the substantial differences that exist in practice between an " ideal " method of plan preparation, relying largely on precise econometric techniques (section 3), and the actual use made of economic models and cognate techniques within the framework of the more empirical procedures followed in the various countries (section 4).

The choice of method of plan preparation is influenced to some extent by the availability of data, by the institutional characteristics of the economy at large, and by the form of planning organization itself. Planning methods are also, however, determined by the concept and purpose of the plan itself. In other words, the question " how does planning proceed? " can be answered only by first defining the kind of plan which is to be prepared. For that reason the principal links between the types of plan various countries have adopted and the methods used for their preparation are summarized below.

It is hardly possible to classify by types the diverse plans adopted, or contemplated, in western Europe. None the less, two broadly distinct approaches can be identified, which have developed for historical and political reasons in some countries and which influence to varying degrees the theory and practice of planning everywhere in western Europe. The first approach, which is essentially an outgrowth of national budgeting procedures and has been developed mainly by the Dutch planners, conceives of the plan as *a technique for policy-making* in respect of the principal aggregates of the economy, chiefly serving the purpose of maintaining a high level of activity. Although this approach has been applied for predominantly short-term purposes, it can be extended to a medium-term period;[2] but — as will be shown below — this concept of planning tends to change some of its characteristics as the time horizon lengthens.

The second approach, of which French planning is particularly representative, originated in postwar reconstruction plans and aims at the achievement of predefined structural changes, with sustained long-term economic growth as its ultimate object. Planning can be considered as a technique for policy-making in this case, too, but the emphasis on structural change means that, in contrast with the first approach, the formulation of policies for key sectors of the economy represents an important feature of the planning process.

For a number of reasons, which will be examined later, government intervention in the market mechanism is much more detailed and frequent in the second than in the first approach. It might be thought that the need for consultations with labour and management would increase with the degree of government intervention. However, both approaches may make extensive use of consultations with private firms and sometimes also with trade unions, although the purpose and scope of such consultations vary considerably from one country to another.

The plan as a technique for maintaining a high level of activity

It was seen in Chapter II that, in most market economies where " traditional " economic policies are pursued, policy objectives reflecting priorities are formulated in broad and loose terms. In planning, such objectives are translated into quantitative targets and, because of the interdependence of economic variables, all targets have to be taken into account simultaneously in the formulation of policy measures. This procedure can be conceived in strictly econometric terms, as will be shown in section 3. Although numerous reasons have prevented the rigorous application of such a procedure, many western European countries have introduced econometric techniques in the postwar period, with the aim of replacing by systematic government action the piecemeal approach to economic policy often pursued in the pre-war period. This approach adds a new dimension to the concept of economic policy in general by acknowledging that, because all the target variables form an interdependent set of magnitudes connected to each other and to the policy instruments through a system of relationships, consistent policies can be designed only if (i) all the targets governments wish to pursue are taken into account simultaneously, (ii) these targets are explicit and quantitatively formulated, and (iii) the consequences of the policy measures to be taken are known with sufficient accuracy. From this point of view, planning is merely a particular method of policy-making.

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[1] Planning techniques in the market economies of western and southern Europe are considered; the term " western Europe " covers both groups of countries, unless otherwise stated.

[2] See Chapter I, p. 3, for definitions of the expressions " short-term ", " medium-term " and " long-term " planning.

The problem of linking the targets with the policy instruments — that is, of specifying formal quantitative relationships between the two sets of variables — is crucial for this kind of planning exercise if applied rigorously. Once the nature and the number of the targets have been determined by the government, or in agreement with the government, the planning authority is faced with the problem of ensuring not only that these targets are generally consistent with policy instruments at the disposal of the government, but also that they can be achieved within the range of applicability of these instruments.

Short-term planning inspired by the first approach is generally limited to global targets, such as the rate of growth of national product and the balance-of-payments surplus or deficit, for the implementation of which essentially traditional, overall measures of fiscal and financial policy are relied upon. This statement needs, however, to be qualified in two respects. First, the short-term plans may include rather detailed projections serving essentially the purpose of indicating the likely demand for the products of the various sectors of the economy. Second, the countries engaged in this kind of planning do not necessarily refrain from the use of fiscal and credit measures which are *selective*, in the sense that they discriminate among sectors of economic activity. However, although such measures are usually applied according to certain criteria, they are not incorporated in the plan model, and their primary object is to remove particular obstacles to the smooth functioning of the economy and/or to implement specific aims of economic and social policy.

The methods of short-term planning can also be used in medium-term planning, but the extension of the time horizon changes the nature of the planning exercise. One reason for the change is that, in the short term, planners can regard investment simply as a category of final demand, whereas in the medium term capital formation must be related to the growth of production. Moreover, it becomes necessary, or at least desirable, to make projections of production and investment for the various sectors of the economy, based on a break-down of the various categories of final expenditure and the use of input-output techniques. However, the sectoral projections of production and investment do not constitute targets related to the application of specific policy instruments, but rather represent the likely outcome of the interplay of market forces within the framework of global government policies designed to maintain a high level of activity throughout the period. Such an exercise, carried out in conjunction with studies of the probable development of employment and productivity, may reveal the need for structural changes of a general nature such as a relatively rapid increase in capital intensity, which may be promoted by means of overall policy measures and consultations with labour and management.

The plan as an instrument of structural change

The second approach to planning reflects the view that the desired long-term growth of the economy requires far-reaching structural changes and that such changes cannot be expected to result from the free interplay of market forces, with only general governmental guidance. With a certain vision of the economy in the relatively distant future taken as the point of departure, it assumes that structural changes in production and a transformation of the main quantitative relationships of the economy can be brought about by new investment and a determinate rate of technical progress in key branches. Such a structural transformation can be effected by relying, to a significant extent, on selective policy measures which in practice cannot be quantified within the framework of sectoral models applied in the preparation of medium-terms plans.

The application of this approach is generally accompanied by the formulation of annual national budgets designed to reconcile the medium-term targets of growth and structural change with the requirements of short-term equilibrium. At the same time, the national budgets serve as a means of evaluating the degree of implementation of the medium-term objectives and as a means of modifying these objectives in the light of unforeseen short-term developments.

Econometric techniques are usually applied at the first stage of the medium-term planning process to obtain a picture of the economy at the end of the plan period, assuming no change in the relationships observed in the past. However, at the second stage the results thus obtained are confronted with the interrelated objectives of economic growth and structural change. This confrontation is followed by the elaboration of selective policy measures designed to bring about the desired pattern of development.

It follows that there is a significant difference in principle between the two approaches to planning. The strict econometric technique of relating targets to policy instruments can be, and has been, used in formulating short-term plans designed to maintain a high level of activity; but in medium-term planning the usefulness of this technique is limited. This is particularly true of the elaboration of plans designed to bring about structural changes which could not be effected without deliberate government action. However, as is shown in some detail in section 4, in medium-term planning, too, mathematical methods are also an important means of providing a framework for the elaboration of selective policies and of testing the consistency of the planning exercise as a whole.

Although the countries under review may be considered as applying mainly one or the other of the two approaches distinguished above, the difference between the policies pursued is not always particularly significant. In sectors where private enterprise predominates, both overall and selective policy measures tend to modify, but not to suspend, market relationships. Measures of the latter kind are typically applied in respect of agriculture, energy and construction and generally also in respect of less developed regions, no matter which approach is followed. However, as will be seen in Chapter V, countries which in general apply the second approach usually aim at influencing private decisions, in particular investment decisions, to a considerable extent; and their policies also differ from those of countries where global planning methods are used in respect of the activities of the public sector itself. Thus, long-term programmes for the various branches of the public sector, including education and other social services, tend to be designed in such a way as to facilitate structural changes conducive to growth in other sectors of the economy, too. In this case, detailed planning and co-ordination of public activities become an integral part of the planning process. This, in turn, has a bearing on the type of planning machinery established and on the form of relations established between the planners and other government agencies (see section 2 below).

Government intervention

As defined above, planning is in principle a technique for policy-making which can be applied irrespective of the degree of government intervention in the market mechanism. However, it has also been shown that there are different approaches to planning which reflect differences in economic and political philosophy. The relationship between planning and the degree of government intervention is therefore an important issue in all western European economies. In general, it can be said that the importance of the tasks of the planners — and also the complexity of the problems encountered by them — tend to increase both with the degree of government intervention in the market mechanism and with the scope and relative weight of the public sector in the economy.[3]

The first question that has to be put, in this context, is whether the development of the interdependent factors which determine the level of economic activity can be left to the price mechanism or has to be influenced by government action, and how far-reaching and selective such government intervention should be. On the one hand, the price mechanism decentralizes decision-taking, and in developed market economies this is generally considered a more efficient form of economic organization than detailed and centralized government intervention. On the other hand, experience is generally acknowledged to have revealed many serious deficiencies of the market mechanism as a means of economic organization. It does not automatically assure full employment of labour and optimum utilization of capacity; nor is over-spending, leading to upward cost and price movements or balance-of-payments difficulties, automatically avoided. In all western economies, therefore, governments assume responsibility for so regulating aggregate demand as to achieve these objectives. In the industrially advanced countries, the traditional global instruments of fiscal and financial policy — sometimes supplemented by measures designed to influence wages and other incomes — have generally proved to be sufficient for this purpose. Indeed, these are the policy measures which are usually applied in the planning process earlier described as the first approach.

Secondly, the price mechanism has deficiencies as a means of allocating resources. Nor, in fact, could it be expected to achieve the pattern of investment required for a balanced development of productive capacity which simultaneously avoids bottlenecks in some sectors and excess capacity in others. For market signals reflect only the existing balance between supply and demand: they therefore offer, at best, only poor guidance for investment decisions in fields requiring costly and indivisible investment projects with a long gestation period. Future prices, which determine the profitability of these projects, will depend on developments of supply and demand which cannot be assessed by individual entrepreneurs. Moreover, the theoretical advantages of the free price mechanism occur only if monopolistic elements are absent. In reality, however, markets will generally not be entirely free of monopolistic features, especially in those processes where for technical reasons production must be on a relatively large scale. In fact, there are only a few markets of which the model of perfect competition is a valid description. Finally, there is a broad range of goods and services for which no market can exist (public services, for example) and in the allocation of which the price mechanism offers no guidance. For all of these reasons the allocation of resources is never determined exclusively by the price mechanism.

In so far as the crucial issue of investment decisions is concerned, the deficiencies of the market mechanism described above can, to some extent, be overcome by various forms of government action. Thus, the government can arrange for the preparation of projections indicating the likely demand for the products of the various sectors, and then put them before producers as a step towards rationalizing decision-making in the private sector. Such a confrontation may result in restrictive business practices, based on various types of understanding among producers. However, tendencies in this direction are likely to develop spontaneously in any event in capital-intensive sectors in industrial economies, partly in order to correct the deficiency of the market mechanism. It is, therefore, preferable that such tendencies should be controlled and oriented by the government in conformity with its overall objectives. The projections do not only provide background material for the confrontations of producers: in so far as they reveal the need for specific government action, use may also be made of selective measures which would modify the basis on which private investment decisions are taken. Finally, the public sector may itself undertake necessary investments which the private sector cannot be induced to launch.

Consultations with the private sector

Irrespective of the approach used in planning, consultations with the private sector would seem to be of great benefit because they add to the knowledge of both parties. The planners often lack detailed knowledge of technological changes, of the possibility for increasing exports and promising fields of import substitution, as well as an intimate knowledge of the employment and wage situation. Useful information on these points can be made available by representatives of management and labour, who — in turn — are able to take more rational decisions if they are better informed about the interdependences of the domestic economy and of the government's general intentions. In addition to the mere exchange of information, such consultations can serve certain more specific purposes in the framework of the planning process.

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[3] For a comparative appraisal of the economic significance of the public sector in some western European economies, see the SURVEY for 1959, Chapters V and VI.

In the short run, for example, governments may wish to influence the economy by disseminating information helping to co-ordinate business decisions when market decisions are hampered by uncertainty about the future pattern of demand and relative prices. They can also promote an understanding and acceptance by the private sector of overall government policies. This is especially important if the government intends to intervene in the process of income formation or to resort to physical controls in respect of certain activities such as building and construction.

The role of consultations in medium-term planning goes beyond the exchange of information in so far as is secures the active participation of private decision-makert in the planning process. In some cases the planning organization may limit its function to that of co-ordinating the private sector's plans and forecasts and testing their consistency within an overall framework, or to ascertaining whether projections made by the planners are consistent with what the private sector considers feasible. In other cases the participation of private interests in the process of preparing sectoral plans implies, in a sense, a moral commitment by both sides, at least in respect of key sectors of the economy. In other terms, both the planning organizations and the representatives of the private sector consider such plans as going beyond mere forecasts, and are consequently ready to make special efforts to ensure their implementation. Consultations of this type, which are oriented towards joint action, may reduce the need for government intervention; and, in certain branches of economic activity, the understanding reached between the planners and the entrepreneurs concerned may lead to the use by the government of specific measures designed to facilitate the investment foreseen in the plan.

2. Planning Machinery

Introduction

The introduction into western Europe of various types of economic planning has been accompanied by the establishment of new institutions, since the traditional administrative units were, in general, unsuitable for dealing with the problems raised by this new approach to economic policy. The nature of the gradual evolution of this new institutional machinery was determined partly by actual experience gained and partly by changes in the scope and nature of the plans. The institutions created in this process had to be fitted into the existing administrative system and political structure of each country. Therefore it is difficult to generalize about the nature of the planning machinery in western Europe, and each country's institutions are best appraised in the context of the conditions prevailing in the country in question. Moreover, in no western European country can the form of the existing machinery be considered as crystallized.

Nevertheless, a number of important connexions can be distinguished between the form of the planning machinery and the nature and purpose of the planning exercise. Thus, the characteristics and, indeed, the scope of the planning machinery depend largely on whether or not the plan is adopted as the official government action programme. If it is, the agency responsible for the preparation of the plan, whilst it is a self-contained unit, needs to be integrated into the central government machinery. If the plan is not endorsed by the government as its official programme, the main planning agency may still be a public body, but one which enjoys a semi-independent status and presents projections and recommendations on its own responsibility. The absence of official endorsement does not imply that such an agency has no influence on the government's policies; indeed, it has been argued that by protecting the plan against the pressures of political life, it will serve more efficiently as a guide for all economic decision-makers.

As noted in the introduction to this chapter, consultations aiming at securing wider participation in the planning process may be a useful feature of any system of planning, irrespective of whether the government endorses the final results. Indeed, until recently planning in Sweden was carried out by means of informal consultations organized by an *ad hoc* body. However, consultations have a more direct bearing on institutional arrangements in cases where (i) the government wishes to secure the co-operation of the private sector in formulating and implementing policies essentially concerned with the main aggregates of the economy and (ii) sectoral plans require a considerable amount of detailed technical knowledge and are elaborated within the framework of government directives. The institutional arrangements actually made in each country reflect not only the nature of the plan and the existing administrative system, but also the prevailing political conditions. In the Netherlands, machinery has been established for consultations with both labour and management on policy issues. In France, it has been possible to organize machinery that permits consultations on overall as well as on sectoral aspects of planning with officials from other government departments and management representatives. Provision has also been made for the participation of labour representatives, but this has not met with any great success. In Norway, by contrast, it has so far not been possible, for political reasons, to secure participation by management in formal consultation machinery. On the other hand, the planning agency relies heavily on the co-operation of other government departments, some of which have established planning units within their respective fields.

The planning process may also allow for the consideration of draft plans by councils, or similar bodies, representing the various economic and social interests of the country. As a rule, these advisory bodies are mainly interested in appraising the general orientation of, and policies provided in, the plans. On the other hand, the consideration by parliament of the final plan does not form part of the planning machinery as such,[4] although it may prepare the ground for subsequent legislative action on government proposals for plan implementation.

The plans of all the less developed countries of western Europe have the status of government action programmes designed to transform the structure of the economy. Therefore, the planning machinery has several features in common with that in industrially advanced countries which are engaged in sectoral planning of a governmental character. However, the less developed countries are not in a position to establish the same kind of interchange of information with the private sector as the industrially advanced countries enjoy. Even in the process of plan preparation they are faced with special problems arising from the need to stimulate private initiative or to replace it by government action whenever it proves inadequate to promote economic development.

In the subsequent parts of this section, an attempt is made to summarize the planning machinery of 12 countries of western Europe and to describe the main features of the present systems. It follows from the above remarks that no useful purpose would be served by attempting to describe an " ideal " form of planning machinery or to evaluate the various national experiences by reference to such an ideal.

France

Three government bodies, the Commissariat Général au Plan, the Service des Etudes Economiques et Financières (SEEF), and the Institut National de la Statistique et des Etudes Economiques (INSEE), participate in plan preparation in France, and the Cabinet, the Conseil Economique et Social and Parliament play a political role, issuing directives, advising and giving final approval.

The Commissariat Général au Plan organizes the planning process and, together with INSEE and SEEF, makes the initial explorations of growth possibilities; the collaboration of other institutes (such as the Centre de Recherche et de Documentation sur la Consommation, which helps to make the consumption estimates) is also sought. The consequences of several alternative growth rates are examined by means of detailed calculations, involving the breakdown of final expenditure and the use of input-output techniques, to estimate the output of the various sectors of the economy so that the Government can choose the alternative most in accord with the policy objectives. This choice is made by the Cabinet after consultations with the Conseil Economique et Social, an advisory body which has been described as a " semi-parliamentary body, a sort of third chamber of Parliament composed of representatives of the economic interests ".[5] The selected growth rate, together with the plan objectives and indications of the fundamental equilibria to be aimed at, are then passed on to the Commissariat Général au Plan in the form of government directives. However, these directives are not final, but may be changed by the Government in the light of the results obtained at the second stage of the planning process — the consideration by the Commissions de Modernisation of the preliminary estimates made by the Commissariat Général au Plan.

The commissions, which are constituted by the Cabinet following proposals made by the Commissaire Général, play an important role in the final preparation of the global and sectoral plans. They were established in 1946 to participate in the formulation of the first French plan, dealing with the repair of war damage and the modernization of basic industry. There are now 25 such commissions (having on average some 40 members): five " horizontal " commissions, dealing with manpower, finance and the general balance of the economy, scientific research, productivity, and regional planning; 16 commissions corresponding to 16 sectors of the economy; and four commissions for education, cultural institutions, hospitals and social welfare institutions and urbanization. Members of these commissions are chosen from among industrial and other business organizations, trade unions and civil servants, so that all sections of the community participate in plan preparation. The commissions meet on only a few occasions during the preparation of the plan, the actual work of drawing up sectoral plans being carried out mainly by working groups composed both of members of the commissions and outside experts. The number of these working parties depends on the complexity of the problems to be studied but, all told, some 3,200 persons took part in the preparation of the Fourth Plan. The commissions survey, in some detail, developments in their respective sectors, outline the expected economic situations in the terminal year of the plan, and advise the Commissariat Général or the Government on relevant policy questions.

The sectoral studies are synthesized by the Commissariat Général into an overall plan. To prevent inconsistencies arising, the various commissions receive continuous guidance from the statistical services on input-output and national-accounting relationships; and it was found that the reconciliation ultimately needed for the Fourth Plan was not very great. It thus seems that sufficient experience has now been gained for this myriad of consultations to be carried out in a reasonably efficient way.

Before the synthesis of a plan is submitted to the Government for approval, the advice of the Conseil Supérieur du Plan, set up in 1961, is sought. This Conseil comprises representatives of industrial and professional organizations, trade unions, regional bodies and the Conseil Economique et Social, with the Prime Minister as Chairman. It also has the task of reviewing the progress of plan preparation, and, during the plan period, checking the execution of the plan.

The final stage of preparing the Fourth Plan consisted of a discussion in Parliament of the policies which the plan implied and the adoption of an Act which gave general approval to the plan.[6] Because of its highly technical character, the plan does not lend itself to detailed approval by the Parliament; it forms a coherent set of estimates of which no part can be changed without examining the implications for the other parts, and detailed non-technical consideration is therefore not very useful.

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[4] See, however, p. 6, where attention is drawn to the submission for approval by the French Parliament of the broad outlines of the Fifth Plan at an early stage of the planning process.

[5] See P. Lemerle, *Co-operative Planning*, Commissariat Général du Plan, 15 December 1962. (Paper submitted to the United Nations' Group of Experts on Planning for Economic Development, to be published in the forthcoming addendum to *Planning for Economic Development*, United Nations, New York 1963, document A/5533/Rev.1.)

The fact that Parliament entered the discussion of the Fourth Plan at such a late stage — and thus could not exert any influence on the fundamental choices — is generally considered as one of the weaknesses inherent in the present process of plan preparation. During preparation of the plan only limited discussions took place even in the Conseil Economique et Social (in its Investment Committee) on the implications of the alternative growth rates of national income. Moreover, it is realized that the technique used for plan preparation in France does not allow the policy-makers to appraise the extent to which the chosen plan represents the optimum, since the implications of alternative, feasible policies are not elucidated. On both these points — which are to some extent connected — improvements have been provided for in connexion with the preparation of the Fifth Plan. In line with this policy the Government submitted in September 1964 a full report on the tentative broad lines of the plan for a vote in both chambers of Parliament and debate in the Conseil Economique et Social, that is at the beginning of the planning process; and this has meant that a larger number of alternatives have had to be presented, not only for the various possible growth rates of gross national product but also for the main policy measures implied, in order to make possible a deliberate decision on the fundamental choices on which the plan is to be based, in the light of their implications for the major policy objectives.

The Netherlands

Planning activity in the Netherlands is mainly the concern of the Central Planning Bureau (CPB). This Bureau was set up in 1945 to co-ordinate the economic activities of the various government departments and to draw up the annual Central Economic Plan. It has contributed to the preparation of the long-term industrialization programmes, which were started in 1949; in 1956 it published a long-term exploration of possible economic growth for the period 1950-1970 and it is now working on a long-term plan for 1980. In addition to these tasks, it has been dealing with problems in the field of planning for education and also, to a limited extent, of regional planning.

During the preparatory stage of the annual plans, the CPB consults many private and public institutions. The Research Department of the Ministry of Finance and the Netherlands Bank are consulted on monetary problems; the CPB also works closely with several departments of the Ministry of Economic Affairs, of which, from an administrative point of view, it forms a part; all basic data are supplied to the CPB by the Central Bureau of Statistics. Contacts with industrial circles provide information otherwise unobtainable and also serve to check the CPB's estimates against the expectations of representatives of industry: the sectoral estimates of the main economic variables are discussed with the representatives of the employers' organizations and, every year, the Central Planning Bureau and the Central Bureau of Statistics organize discussions with the leaders of about 100 large enterprises, in order to compare the CPB's view of the path of economic development with that of the entrepreneurs and to collect data on their investment plans. All these consultations are carried out in order to check the results of the Bureau's calculations based on an econometric model. As the investment and export estimates obtained by econometric methods have proved particularly uncertain, special attention is paid in the inquiries to these variables.

An early draft of the annual Central Economic Plan is sent for comment to the various government departments and to the Netherlands Bank. A new draft is then made and submitted to the Central Planning Commission. This body, created by the same law which established the CPB, advises both the Government and the Director of the CPB on the work of the Bureau. In practice it meets once a year to discuss the draft of the plan. It comprises representatives of the various ministries and other official agencies as well as persons who, by reason of their scientific qualifications or their positions in industry, may be regarded as competent to advise on the work of the Central Planning Bureau; the Director of the CPB is also a member of the Commission. Although the CPB is not obliged to accept the advice of the Central Planning Commission, it generally does so. The final draft of the plan is sent for approval to the Council for Economic Affairs, which is composed of those ministers dealing with social or economic problems, the meetings of which are attended by the Director of the CPB and the President of the Netherlands Bank. The plan is then published, but it is not explicitly approved by the Government as a programme of action, nor is it subject to parliamentary vote. In recent years, however, a very early draft, drawn up in June or July, has been sent by the CPB to Parliament as background information for discussions on the annual budget.

For the examination of the possible rates and patterns of development up to 1970 (published in 1956), the same procedure was followed as for the annual plans. These long-term forecasts made for the various industrialization memoranda had a different character: they were included in these memoranda and then submitted by the Minister of Economic Affairs to Parliament. It has been decided that in the near future medium-term plans will be drawn up systematically by the CPB, in close co-operation with representatives of employers' organizations and trade unions, with a view to co-ordinating business decisions more effectively than can be done by the market mechanism alone. It is not yet clear how far such medium-term planning will influence the nature of economic policy, though it does not appear that any radical changes are expected.[7]

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[6] The Act approving the Fourth Plan incorporated the following statement: " The Fourth Plan, known as the Economic and Social Development Plan, annexed to the present Act, is approved as a framework for investment programmes for the period 1962-1965 and as an instrument for the orientation of economic and social programmes." (See OECD, *Growth and Economic Policy*, Paris 1964, Part II, p. 94.)

The quarterly, annual and longer-term analyses of prospective economic developments are important bases for the formulation of economic policy. The policies themselves are generally prepared by the CPB but are adopted by the authorities only after parliamentary debate. However, representatives of all sectors of the economy are also consulted on most aspects of policy. Two bodies have been set up to provide forums for these consultations — the Social Economic Council and the Foundation of Labour.

The Social Economic Council was created in 1952 by the law establishing industrial boards,[8] and was allotted two tasks: first, to supervise the industrial boards for the different sectors and, second, to advise the Government on all economic and social questions. The Council comprises 45 members, the employers' organizations, the trade unions and the Government each nominating 15; and it may advise the Government on request or on its own initiative. It has established several *ad hoc* or permanent commissions to study a variety of economic problems, one of these — the Commission for the Development of the National Economy — being specially charged to review the course of economic development. The Central Planning Bureau works in close co-operation with the Social Economic Council, and particularly with its Commission for the Development of the National Economy, of which the Director of the CPB is a member. In general, all technical questions raised by the SEC are analysed in the Planning Bureau, and staff members of the Bureau often assist in preparing the Council's reports.

The Foundation of Labour, which is a non-governmental institution set up in June 1945 by the central entrepreneurs' and workers' organizations to facilitate their mutual co-operation, plays an important role in the determination of wage policy. This is so vital an element in the complex of measures for plan implementation in the Netherlands that a description of the functions of the Foundation and of the related Government agency — the Board of State Mediators — is reserved for Chapter V.

Sweden

After the war, and until recently, medium-term planning in Sweden was undertaken by *ad hoc* commissions, with no permanent secretariat, appointed by the Ministry of Finance. The terms of reference of the latest commission, which are typical of those given to its predecessors, are, in effect, to prepare a report on the trends in the Swedish economy. Therefore, since the Government has not committed itself to any targets — for the fulfilment of which a medium-term plan would be the main tool — the Commission has merely to make a forecast based on past experience and current trends. Because these trends are influenced by economic policy it is necessary to take account, in the forecast, of government measures, and especially of plans for the public sector. This is a fairly straightforward procedure so far as decisions on future policies have already been taken; but on various questions the Commission has had to rely on its own assessment of the policies that have a good chance of being adopted and carried through.

Given an economic system in which most decisions on production, investment and employment are taken by non-governmental economic units, the outline of the perspective for the whole economy is based on a method of successive approximations: " In the first round, firms and sectors have been asked to report plans and forecasts on the assumption that the rate of growth in the economy as a whole will be roughly the same as in the recent past. As the Commission has proceeded towards a general view of economic growth tendencies, round tables have been held with representatives of sectors. This had given the Commission insight into the reliability of estimates and the possibility of revising sector perspectives. In the final round, the Commission has tested the consistency of sector plans and forecasts against the overall perspective that has emerged." [9]

The machinery for plan preparation can thus be very simply described. The Commission collects the various plans and forecasts from the economic units which have been chosen to undertake such work, the contacts being on an *ad hoc* basis. Co-operation between the Commission and private firms and their associations, public institutions and research institutes has been informal but increasingly effective; and the Commission has not only been provided with data on existing plans and forecasts but, in addition, private and public associations and agencies have frequently made special surveys at the Commission's request. The Commission has full responsibility for the analysis of the basic data, though it has been assisted by research institutes. The various sectoral plans and forecasts are reconciled within the framework of national accounts; and projections of demand, trade and the labour supply are brought into the picture until, through a series of successive approximations, the final estimate for the economic balance in the terminal year of the plan is established.

As a result of the emphasis placed by the last Planning Commission on the need for continuous surveys of expected future developments,[10] the Government concluded that " the system of surveys, made at intervals of five years by temporary committees, has shown certain weaknesses ".[11] Therefore, steps were taken in 1962 to establish more permanent planning machinery. A new section was set up within the Economic Department of the Ministry of Finance to organize the research work and to co-ordinate the surveys that are needed. The Research Council (consisting of the directors of several economic research institutes), which assists the Ministry of Finance in the preparation of the annual national budgets, now has greater responsibility in this sphere; and a new permanent Economic Planning Council, with the Minister of Finance as Chairman and including 14 representatives of the central authorities, academic professions, labour organizations, industry, banking and trade, is to review economic developments, consider the research work which will be required and act as an organ for consultations between the Government and the various economic and social interests on matters concerning longer-term programmes. However, the main feature of Swedish planning is unaltered. It is stated specifically that " the work involving the long-term development problems does not aim at any detailed economic planning with any fixed objectives as regards production within various branches of trade ", and that the purpose of planning " is to outline trends and problems and to inform about such measures as may facilitate a rapid and balanced expansion of the Swedish economy ".[12]

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[7] See P. de Wolff, " Central Economic Planning in the Netherlands ", *Weltwirtschaftliches Archiv*, Band 92, Heft 1, 1964, p. 202; and OECD, *Growth and Economic Policy*, Paris 1964, Part II, p. 169.

[8] This is an attempt to translate the Dutch *Publiekrechtelijke Bedrijfsorganisatie*.

[9] See I. Svennilson & R. Beckman, " Long-term Planning in Sweden ", *Skandinaviska Banken*, *Quarterly Review*, No. 3, 1962, p. 72.

[10] The Planning Commission for the period 1956-1960 had already launched the idea of " rolling revisions ", the system by which plans would be subject to continuous adjustment.

[11] Press communiqué of 15 November 1962 from the Royal Ministry for Foreign Affairs, Stockholm. (For a Swedish text, see *Från Departement och Nämnder*, Vol. 24, No. 22, p. 447.)

Norway

National budgets have been prepared annually in Norway since 1946; the first medium-term plan was elaborated for the period 1948-1952. Since 1954 there has been a continuous series of four-year plans coinciding with each parliamentary period. The current plan covers the years 1962-1965.

Both annual plans and medium-term plans represent programmes of government action, and are prepared within the central government administration. They are presented to Parliament for discussion (the national budget in conjunction with the fiscal budget and the medium-term plan at the end of each parliamentary period), but they are not voted upon and, therefore, do not have the force of law. The plans constitute directives only for the government agencies.[13]

The medium-term plans have provided a frame of reference for the preparation of the national budgets, but it appears that in practice emphasis has been placed on short-term rather than on medium-term planning. Thus, from the first days of economic planning in Norway, the national budget section[14] has been the main agency responsible for the elaboration of short-term plans, while the medium-term plans have been prepared by an *ad hoc* plan secretariat (see below for recent changes in the planning machinery). The absence of a permanent secretariat meant that valuable experience gained in plan preparation was lost for future work and that the important task of following up the medium-term programmes was not properly carried out.[15]

The planning process has been characterized, firstly, by the active participation in the elaboration of the plans of a large number of government departments and directorates, some of which have established their own planning units, secondly, by the absence of any formal machinery for consultations with representatives of labour and management and, thirdly, until 1961, by the lack of a suitable econometric model. In the case of the medium-term plans, the first stage of the planning process consisted in the formulation of preliminary forecasts and the provision of suggestions by various government agencies in the light of general directives issued by the Government and on the basis of the detailed information about particular branches of the economy available to them. At the second stage, the preliminary results obtained in this manner were reviewed and adjusted by the *ad hoc* planning secretariat, whereupon new directives were issued and at the third stage revised estimates were made. Therefore, the final plan approved by the Government emerged from a series of successive approximations.[16] Although this process took place within the framework of the national accounts, consistency could only be secured for rather aggregated variables; on the other hand, by utilizing the expertise which was available, the procedure ensured that the quality of the various detailed forecasts was quite good, particularly as the government agencies in question gained valuable experience over the years. Nevertheless, the risk of inconsistencies between the various targets remained high. The introduction of an econometric model represented an attempt to overcome the deficiencies of the above procedure, while retaining the advantages of the wide participation by government agencies in the planning process.

The technical aspects of the model are described in section 4 below. Although the model was far from complete and had been constructed mainly to help with the preparation of the national budget, it facilitated and improved the planning work in several respects. Consistency between the various targets could be easily tested; the estimates made by various government agencies on the basis of rather arbitrary assumptions could be checked with figures obtained from the model; and the implications of alternative assumptions could be more readily evaluated, so that the model was a valuable instrument for making economic policy decisions.

The characteristic feature of the present system is the combination of the administrative process of plan preparation with the use of the model. The first two stages of the planning process remain essentially as described above, but at the conclusion of the second stage the model is now applied by the Central Bureau of Statistics to derive a consistent and detailed picture of the economy at the end of the plan period. The results obtained are utilized for the purpose of revision at the third stage, whereupon the model is used for a second time.

At the beginning of 1963 the planning machinery was reorganized. The central apparatus for overall planning now consists of two divisions; one for medium-term and one for short-term planning, both within the Ministry of Finance and reporting to the Permanent Under-

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[12] *Ibid.*

[13] See P. Bjerve, *Planning in Norway, 1947-1956*, Amsterdam 1959, Chapter II.

[14] In 1962 this section became part of a new Economic Division established within the Ministry of Finance. The Economic Division has executive duties in addition to its planning functions.

[15] For further details, see H. Skånland, " Current Problems in Norwegian Economic Planning ", *Weltwirtschaftliches Archiv*, Band 92, Heft 1, 1964.

[16] The medium-term plan is usually less detailed than the annual national budget; but it lays greater stress on general economic objectives.

Secretary, who is responsible for co-ordination. Moreover, a new Regional Planning Division, which is to maintain close contact with the Division for "Long-Term" Planning, was established in the Ministry of Municipal and Labour Affairs.[17]

The new Division for "Long-Term" Planning will prepare the future medium-term plans. It is also expected to follow the progress of the plans, to present draft programmes that extend beyond the period of the current programme and, *inter alia*, to analyse and forecast long-term trends in order to create a more adequate basis for the comparison of investment alternatives. Two working committees will henceforth assist in the preparation of the plans. The first consists of Under-Secretaries of State and senior officials, including the Director of the Central Statistical Office and the Governor of the Central Bank, and the second of representatives of the planning divisions of various ministries (including the Director of the Regional Planning Division) and of other officials.

As already noted, no formal arrangements have been made in Norway to secure the participation of the private sector in plan preparation, though committees in certain branches of industry have made useful contributions to the preparation of the plan and discussions have taken place, from time to time, with other representatives of private industry. The Economic Co-ordination Board, established immediately after the war and comprising representatives from the more important organizations in the private sector, ceased to function early in the fifties, when the private enterprises' representatives decided that their presence on the Board was only required in order to underwrite a Government policy with which they did not necessarily agree. From 1948 to 1952 the annual national budgets were submitted in draft form to the Co-ordination Board for comment, but for several reasons this had little — if any — effect on the final version. Branch boards can be set up for individual industries "in order to improve on the good co-operation within the branches and between them and the respective governmental organs",[18] but although a number of such boards have been established and still function, none of them has been directly involved in plan preparation. Nevertheless, research work undertaken by them has occasionally been of great value in the planning work of the Ministry of Industry.

More important for plan preparation, particularly for the annual national budgets, are the direct contacts with private industry which have been forged as a consequence, first, of the concession system for power plant construction, secondly, of the direct investment control exercised in the earlier postwar years and, thirdly, when the latter was abolished, of the building licence system, which still operates for industrial building (see Chapter V). For these purposes, the Ministry of Industry maintains contacts with private industry which are indispensable for plan implementation and also useful for plan preparation.

In connexion with the reorganization of the planning machinery, the Government has also proposed the establishment of a Planning Council which would bring together representatives of the authorities, industry, labour and the research institutes. However, owing to reservations of private management on the role of the proposed council and on the extent to which the employers' organizations would be committed to official planning policy, it has not so far proved possible to reach agreement on the establishment of such a council.

The recent changes in the planning machinery in Norway have mainly served the purposes of improving planning procedures and of strengthening medium-term and long-term planning activities. The planning machinery continues to reflect the nature of the plans as government programmes and the importance attached to planning as an instrument for co-ordinating the activities of the public sector. The location of the main general planning agencies within the Ministry of Finance also links plan preparation to plan implementation. In fact, this Ministry is responsible for the most important policy instruments such as the fiscal budget, the budgets of the State Bank, and credit policy. On the other hand, the planning machinery does not yet provide for extensive and systematic consultations with the representatives of labour and management.

Belgium

The new Belgian planning machinery resembles, to a considerable extent, that of France. The plan is drawn up by the Bureau de Programmation (attached to the Ministry of Economic Affairs), the duties of which are to study the general objectives of economic policy and to make proposals to the Government, to establish a medium-term plan for economic and social development in general and for public investment in particular, to forecast private investment and to draw up regional development plans. The Bureau receives its directives from the Comité Ministériel de Coordination économique et social, comprising all ministers who deal with economic and social problems and chaired by the Prime Minister. The Committee has three sub-committees for examining particular aspects of the development programme — finance and the budget, economic expansion and regional policy, and public investment and transport.

During plan preparation the Bureau de Programmation seeks the help and advice of outside experts through the medium of consultations with members of the Conseil Central de l'Economie and of the Conseils Professionels established for various branches of the economy. This process of consultation is further formalized through the Comité National d'Expansion Economique (established in 1960), which brings together representatives of the relevant ministries and of employers', workers', farmers' and professional organizations. It is concerned with policies on investment, employment, prices and wages; it also makes forecasts for the various sectors of the economy and tenders advice on both public and private investment plans. Its approval is required before the plan is submitted to the Comité Ministériel, referred to above, for final government approval.[19]

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[17] Regional planning offices were established in the early 1950s by the Labour Directorate. These offices are now attached to the County Governors, who report on regional planning to the Ministry of Municipal and Labour Affairs.

[18] *Langtidsprogram for 1954-1957* (annex to St. Meld. No. 62, 1953, p. 64).

Ireland

The two programmes of economic expansion which have been formulated so far represent official statements of the policies which the Government intends to pursue. Though they were both presented to Parliament and may be discussed in connexion with, for example, the annual budget, formal approval is neither sought nor constitutionally necessary. Both programmes were published in order to obtain a general acceptance of their objectives (and the active participation of private interests in achieving them) and to make clear what action the Government itself intended to undertake.

As noted in Chapter II, only the second of these two programmes includes quantitative targets for the major components of output and demand and for foreign trade. The preparation of this programme was centred in, and co-ordinated by, the Department of Finance. With the assistance of the (independent) Economic Research Institute, a target growth rate was selected which, after various alternatives were examined, seemed the highest that could be achieved in the light of the available internal and external resources. Following approval of it by the Government, the broad outline of the programme, containing the objectives and main assumptions, was published in August 1963 in order to promote public discussion and form a basis for consultations with the principal functional organizations, representing trade unions, industry, agriculture and other sectors. In the light of the views received, the programme was elaborated further and, in July 1964, published in a final, and slightly modified, form. As part of the process of consultation it was submitted to the National Industrial Economic Council, established in October 1963 to advise the Government on the principles to be followed in the development of the economy (including questions relating to the trend and level of incomes).[20] The Council concluded that the industrial growth target of 7 per cent was certainly feasible, but only if firms and industries implemented the necessary measures without delay. Indeed, it was considered that this target ought to be regarded as a minimum which, in order to accelerate the growth of employment, should ideally be exceeded.[21] The Council will report annually on the progress of the programme, drawing attention to any changes that become desirable, and also will examine other aspects of the programme, such as manpower policy and exports.

Italy

At present there is no permanent planning machinery in Italy, though a National Economic Planning Board was established in 1962. Presided over by the Minister of the Budget, it is composed of employer and trade union representatives and persons appointed in their individual capacities. A sub-committee of experts was allotted the task of producing the preliminary outline of a long-term plan, which was submitted to the Planning Board.[22] A planning office, which was established in May 1963, within the Ministry of the Budget, prepared a draft of a more detailed five-year plan for the period 1965-1969.[23] However, before this report, issued in June 1964, could be considered either by the Government or by the Planning Board, the Government had resigned, and up to the time of writing the new Government's attention had been devoted to short-term economic problems requiring immediate action.[23a]

The United Kingdom[23b]

Attempts to speed up economic growth, through some kind of co-ordinated planning or comprehensive view of the future pattern of the economy and of inter-sector relationships for both supply and demand, date from the establishment of the National Economic Development Council (NEDC), which began work in 1962. The Council, presided over by the Chancellor of the Exchequer, is composed of members of the Government, nominees of employers' organizations and trade unions, and persons appointed in their individual capacities. Its general functions are to seek agreement on ways of improving economic performance, to consider the obstacles to quicker economic growth and how to overcome them and, in this connexion, to concern itself with plans for the future in both the private and public sectors. It is served by an independent secretariat (constituting the National Economic Development Office), the Director-General of which is an *ex officio* member of the Council. Its principal task so far has been to study the implications of an annual growth rate of 4 per cent for the period 1961-1966, both for the major productive sectors and for the main economic variables (for example, manpower, investment and the balance of payments). Studies undertaken by the Office are submitted to the Council for discussion and approval, so that the reports as published represent the considered views of the Council itself. The views expressed are not binding on the Government but, because of the Council's composition, may be expected to carry considerable weight, and the Government has in fact accepted the general targets and recommendations contained in the reports so far issued.

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[19] The Conseil Central de l'Economie was not, in fact, consulted on the programme presented to Parliament (see *Rapport du secrétaire sur l'activité du Conseil*, Bruxelles 1964, p. 166). A proposal is at present before Parliament for the amalgamation of the Conseil central and the Conseil économique et social.

[20] Thus, the functions of the Council are similar, in some respects, to those of the British NEDC; agriculture is excluded from its terms of reference. Government, employer, trade union and State Board representatives comprise its membership.

[21] National Industrial Economic Council, *Interim Report on Second Programme for Economic Expansion* (Pr. 7519), Dublin, January 1964.

[22] *Rapporto del vice Presidente della Commissione Nazionale per la Programmazione Economica*, Servizio Informazioni della Presidenzia del Consiglio dei Ministri, Rome, March 1964. This is generally referred to as the " Saraceno Report ", after the name of the vice-chairman. It covers the ten-year period 1964-1973.

[23] *Progetto di programma di sviluppo economico per il quinquennia 1965-69.* (Reproduced in *Mondo Economico* (Supplement), 4 July 1964.)

[23a] See also Chapter II, footnote 30[a].

[23b] Since this text was written a number of important changes have been made in the planning machinery — notably the creation of a Department of Economic Affairs.

In preparing its study on the implications of a 4 per cent growth rate the NEDC sought the assistance of 17 industrial sectors, representatives of which were invited to submit information on their prospective output, exports, imports, employment and capacity, on the basis of both existing plans and the assumption of a 4 per cent national growth rate, and to draw attention to particular problems that might arise in their respective industries in connexion with the latter target. Thus, an important and vital role in the planning, as in the subsequent implementation, of the programme consists in consultation and discussion with employers and trade unions in different sectors. These relationships have recently been formalized and strengthened by the creation of economic development committees for individual industrial sectors, with a (quadripartite) structure similar to that of the Council itself, which are to be the channel for presenting views of the industry to, and co-operating with, the Council.

In July 1964 the Council decided that consultations should begin with industry for drawing up a further growth programme for the period up to 1970 and for reviewing the implications of a 4 per cent annual growth as well as of other rates.

Greece

Since the reorganization of the Ministry of Co-ordination in 1951, planning work in Greece has been done both in the two Directorates General of that Ministry (the Directorate General for Economic Policy and Planning and the Directorate General for the Implementation of the Plan) and in other ministries, with the Ministry of Co-ordination having responsibility for overall co-ordination of plan targets. The macro-economic framework, projections and overall balance are drawn up in the Directorate General for Economic Policy and Planning; but many of the detailed estimates and calculations are carried out by the other ministries concerned and are first examined by the Directorate General for the Implementation of the Plan.[24] Research and Planning units have been set up in a number of ministries (for example, in the Ministries of Agriculture, Industry and Education) to provide liaison with the Ministry of Co-ordination. Consultations on plan details are also held with representatives of public enterprises and State monopolies and in *ad hoc* committees convened as the need arises.

In November 1963 it was announced that a new Advisory Council for Economic Development was being set up, with the task of reviewing economic and social policy, including the development programme, and recommending appropriate measures. Composed of ministers and leading figures in public and private organizations (including scientific organizations and universities), it is chaired by the Prime Minister. The new Council has not yet played a very active part in the formulation of policy, and its functions are strictly advisory. Moreover, the whole machinery of planning is at present being reviewed, involving a reorganization of the Ministry of Co-ordination.[25]

Turkey

In Turkey the preparation of the plan is effected through two institutions: the High Planning Council, comprising both ministers and technical experts; and a purely technical body, the Central Planning Organization. The High Planning Council, which is the supreme planning organ, is composed of the Prime Minister (or the Deputy Prime Minister), three ministers chosen by the Council of Ministers, the Under-Secretary for Planning, and the three departmental heads (see below) of the Central Planning Organization. Its main tasks are to assist the Council of Ministers in determining economic and social policy objectives, to check (before its submission to the Council of Ministers) the conformity of the draft plan with these goals, and to ensure that the provisions of the plan are adequate for their attainment. Planning decisions reached in the High Planning Council are submitted to the Council of Ministers, which returns the plan to the technical members of the High Planning Council so that the compatibility of any changes introduced by the Council of Ministers can be checked. Only then is the plan submitted to Parliament.

The Central Planning Organization, which is attached to the Deputy Prime Minister's Office and directed by the Under-Secretary for the State Planning Organization, is composed of three Departments — Economic Planning, Social Planning, and Co-ordination (including a general secretariat). The Economic Planning Department is composed of sections charged with annual programmes and longer-term plans, regional and sector planning and the financing of the plan; in addition, *ad hoc* committees can be formed, should the need arise, to deal with specific questions. The Social Planning Department comprises a research and a planning section; and it is concerned, within the frame of reference of the economic plan, with manpower problems, programmes for reducing differences in the regional distribution of income, and regional social development and housing problems. The Co-ordination Department has sections concerned with financial and legal measures, research and analysis, and publications. Its duties are to tender administrative, legal and financial advice to both the public and private sectors in an effort to facilitate the realization of the plan targets; to co-ordinate the actions of the various public bodies concerned with plan application; and to prepare quarterly progress reports on plan implementation which are submitted to the High Planning Council.

Spain

The task of preparing the Spanish Development Plan was assigned in 1962 to a specially created Plan Commissariat, responsible to the Presidency of the Government. Conceived broadly along the lines of French planning machinery, the Commissariat also proposes the measures that are necessary for implementing the plan, co-ordinates the activities of the different ministries and public organs that are the final executive agencies and reports on the implementation of the plan.

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[24] See E. G. Panas, " The Uses of National Accounting Estimates in Postwar Long-term Economic Planning in Greece ", a paper presented to the Eighth General Conference of the International Association for Research in Income and Wealth, Corfu 1963 (to be published).

[25] The new Government, constituted after the elections of February 1964, announced that it would continue to rely on the Advisory Council and that the Center of Economic Research (an independent body financed by the Greek Government, the United States mission in Greece and the Ford and Rockefeller Foundations) would be expanded into a Center of Research and Planning, under the general supervision of the Minister of Co-ordination, and would be responsible for technical planning work.

The Delegate Commission of Economic Affairs, established in 1957, acts as a restricted ministerial committee with general political responsibility for the plan. This body, which is advised by the National Economic Council (composed of individuals appointed by the Government), presents the draft of the plan to the Council of Ministers for its submission to the Cortes. It also issues directives and promulgates regulations for plan implementation and financing and decides on the preferential treatment (fiscal incentives, exemption from customs duties, priorities in the allocation of official credit, etc.) to be granted to selected economic sectors or, in the case of growth areas (see Chapter V), particular firms. Moreover, it also determines social policy concerning incomes and the selection of growth areas. The Plan Commissioner may attend meetings of the Delegate Commission.

The Plan Commissariat (which may be regarded as a branch of the Delegate Commission) operates in close contact with the various ministries and is assisted in its work by vertical and horizontal commissions, the former composed of government, employer and labour representatives, the latter (dealing with technical matters) being less representative in character and composed mainly of experts. These commissions report periodically on plan implementation in their respective sectors. Within the Commissariat, the Gabinete de Estudios undertakes technical and economic studies and other preparatory work. Two advisory bodies assist the Plan Commissariat in its general functions: the Steering Committee of the Office for Co-ordination and Economic Planning (OCYPE)[26] and the Consultative Committee of Specialists. The Steering Committee includes the Technical Secretaries-General of the Ministries, a member of the National Economic Council, a representative of the National Institute of Industry (which groups the state-owned or state-controlled enterprises), and the Secretary-General of the Syndicate Organization. Presided over by the Plan Commissioner (by delegation from the Under-Secretary for the Presidency of the Government), the Steering Committee assists in co-ordinating policy and plan implementation among the different ministries and public agencies. The Consultative Committee of Specialists is composed of eight experts and gives technical advice to the Plan Commissioner.

Portugal

Since the preparation of the Second Development Plan, planning machinery in Portugal has been modified several times. But although the names of the major planning organs have changed and their functions were reviewed and expanded at the end of 1962, because of the closer ties being forged between the metropolitan area and the overseas provinces (and the prospect of their ultimate economic integration), the basic planning machinery has remained unaltered. The Ministerial Council for Economic Affairs, headed by the Prime Minister, is responsible for determining the basic objectives of the plan and the general principles of economic policy and plan implementation; it is assisted in this work by an Advisory Committee for Economic Policy (also chaired by the Prime Minister) which ensures that consultation takes place with interested parties in the various economic fields. The Advisory Committee includes an equal number of representatives of the various Government departments and of the private sector. Through the medium of the Ministry for Overseas Territories, a Co-ordinating Committee for Planning and Integration ensures liaison with the Technical Secretariat (see below) and with the planning authorities of the individual overseas provinces.

The Technical Secretariat to the Presidency of the Council of Ministers (which replaces the former Inspectorate of the Development Plans and is responsible to the Ministerial Council) is not only the main agency concerned with the detailed elaboration of the plan but also the most important body charged with implementing specific plan projects and preparing an annual progress report. It assists the Council both by co-ordinating and analysing the information supplied by the various ministries and by undertaking special studies which provide the technical basis for the Council's decisions.

An Interministerial Committee for Planning and Economic Integration which, in October 1962, took over the functions previously carried out by the Interministerial Committee for the Development Plan acts as a general co-ordinating organ in the planning field, ensuring liaison between the Technical Secretariat and the different departments in order to promote, implement, finance and supervise the various projects included in the plan. The Interministerial Committee is presided over by the Director-General of the Technical Secretariat and is composed of representatives of the various ministries, the Bank of Portugal, and the National Institute of Statistics. Thirteen commissions (vertical and horizontal) prepare the groundwork for the Interministerial Committee.

Once the draft of the Second Development Plan was approved by the Ministerial Council, the normal constitutional procedure of presentation to, and adoption by, Parliament was followed.

3. METHODS FOR PROJECTIONS AND PLANNING

This section is devoted essentially to a technical discussion of econometric methods which are used for economic planning in western Europe. In the first subsection, the " ideal " technique, which would allow both policy variables and targets to be quantified in a coherent set of equations, is examined. Parts of this technique have, in fact, been used for macro-economic planning but, in practice, it has proved difficult to translate into appropriate quantitative terms policy measures which are mainly of a qualitative nature. Moreover, the use of such a technique for sectoral planning continues to be hampered both by a lack of a sufficiently detailed knowledge of the interrelationships and by the complexity of the system of equations required.

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[26] This office, established in 1957, was responsible for the partial economic planning that existed until the creation of the Plan Commissariat, to which it became attached.

Other aspects of econometric techniques which are reviewed are their relevance for the construction of models and their use during short-term and medium-term planning. Sectoral models, involving the utilization of input-output techniques, may serve both these purposes, but they are particularly important when the time-horizon is extended beyond the immediate future. However, as previously noted, input-output techniques do not usually provide direct links between targets and policy variables. Therefore, the projections which are made on the basis of these techniques are regarded mainly as benchmarks for enterprise planning and as a framework for government decisions on the use of selective policies.

The use of models for planning and policy making

Economic policy planning may start with forecasts of the key variables, made on the assumption that policies are unchanged: this will bring to light the kinds of economic problem that can be expected to arise in the planning period and help to formulate and quantify the targets. Next, the impact of the various feasible policies on the targets must be examined. This stage should be followed by an evaluation, preferably in quantitative terms, of the impact of possible policy changes on the targets and the most promising set of policy measures chosen accordingly. A systematic approach towards the establishment of forecasts and the choice of policy alternatives should take account of interdependences among the main endogenous and exogenous variables. The endogenous variables, such as income, production, factor inputs, consumption and investment, are dependent both on each other and on the exogenous variables — the growth of population, the development of world trade, income and price levels in foreign countries, etc. — which may be considered as independent of developments in the economy in question. The terms endogenous and exogenous are used here in the strict sense: exogenous variables are determined by external forces, whereas endogenous variables are determined by forces operating within the economic process. In practice, however, the distinction cannot be drawn so sharply and often variables which are actually determined by internal forces have to be considered as exogenous simply because the mechanism by which they are determined is not known with sufficient accuracy. Also whether or not, in a given context, a certain variable can be considered as exogenous or should be regarded as determined by the system often depends on the length of the planning period. In short-term analyses, for instance, no strong relationship between government expenditure and its determining economic and social factors — such as growth of population, infrastructure investment requirements, etc. — needs to be taken into consideration, while for long-term problems this must be done.

Economic policy planning is directed, in the first place, to those endogenous variables that are closely connected with the general well-being of the community such as the level and growth of GNP, unemployment, the price level and the balance of payments — that is to the target variables; and in the second place to those exogenous variables which the government can, to some extent, control directly — that is, to such instrument variables as government expenditure, tax rates, interest rates and transfer payments. In terms of these concepts the policy problem can be stated as follows: the general objectives of economic policy are translated into quantitative targets and, knowing the impact of the instrument variables on these targets in quantitative terms, the possible policy alternatives are evaluated and the one best suited to achieve the targets is chosen.

The ultimate impact of the instrument variables on the targets can usually be determined only by means of a mathematical approach because many economic variables play the role of a dependent variable in one relationship and of an independent variable in others. Therefore the final impact of a change in an exogenous variable depends on numerous elasticity coefficients which may cancel or reinforce one another so that a non-mathematical approach may not even reveal the direction of the ultimate impact. The question of the influence which a wage change has on employment may serve as an illustration. Firstly, an autonomous change in the wage level changes the distribution of income between wages and profits, increasing the former and reducing the latter. There is a reasonable chance that consumers' expenditure will then rise though, in certain cases, the demand for investment goods may be reduced. On the other hand, however, the increase in the wage level may raise unit labour costs and, if so, probably also prices, which might have a negative effect on the volume of total expenditure. Whether the net result is an increase or a decrease in final expenditure, and thus in production and employment, cannot be predicted without some form of quantitative analysis. A further possible consequence of the increase in the wage level is that if, in the long run, labour productivity does not rise sufficiently to compensate for this, unit labour costs will rise and employment will be reduced by the substitution of capital for labour and this change in the labour market conditions may in turn affect the wage level. This example indicates the need for procedures which conveniently reveal both the direction and the extent of the impact of specific changes in exogenous variables on target variables. Appropriate techniques have, therefore, been developed for presenting the complex interrelationships between economic variables by means of a system of mathematical equations. Within such a system, each endogenous variable is expressed as a function of exogenous variables and of other endogenous variables.

These equations describe such phenomena as: the relationship between output and factor inputs; the manner in which factor income is related to production; the determination of disposable income by earned income, transfer payments and tax rates; the proportion of disposable income which is to be spent on consumers' goods and the proportion to be saved; the factors determining the distribution of consumption between the various sectors of the economy; the generation of investment in stocks and fixed assets; the factors determining foreign demand; the proportion of total expenditure to be met by imports; and the relationship between prices of final products and factor costs, import prices and other variables. The equations may refer to macro-economic quantities or to individual sectors or branches of industry; and according to the problem in hand they might include considerable detail for one sector, treating others only very generally.

If, in this system of equations, the endogenous variables are denoted by x_i $(i = 1 \ldots I)$ and the exogenous and lagged endogenous[27] ones by y_k $(k = 1 \ldots K)$, the general form of a linear model can be written as:

$$(1)\quad \left\{ \begin{array}{l} x_1 = a_{12}\, x_2 + a_{13}\, x_3 + \ldots + a_{1I}\, x_I + b_{11}\, y_1 + b_{12}\, y_2 + \\ \ldots + b_{1K}\, y_K \\ x_2 = a_{21}\, x_1 + a_{23}\, x_3 + \ldots + a_{2I}\, x_I + b_{21}\, y_1 + b_{22}\, y_2 + \\ \ldots + b_{2K}\, y_K \\ - - - - - - - - - - - - - - - - \\ x_I = a_{I1}\, x_1 + a_{I2}\, x_2 + \;\ldots\ldots\ldots\; + b_{I1}\, y_1 + b_{I2}\, y_2 + \\ \ldots + b_{IK}\, y_K \end{array} \right.$$

In this generalized form, all endogenous and all exogenous variables are present as explanatory variables in each equation. In reality, of course, the interdependences are much simpler than this generalized form might suggest, with many of the coefficients being zero. This generalized form of the system shows why the final impact of each exogenous variable on the endogenous variables cannot be determined from the structural equations taken individually. A change in y_1, for instance, directly affects not only x_1, but also $x_2, x_3 \ldots x_I$ and will, therefore, have certain indirect effects on x_1, since the latter variables also feature in the first equation; furthermore, as can be seen from the other equations, $x_2, x_3 \ldots x_I$ are affected by any changes in x_1. Thus the final influence of a change in y_1 on x_1 can be found only by cumulating all these partial effects. The process of accumulation is, in effect, achieved by " solving " the model so that all non-lagged endogenous explanatory variables are eliminated from the equations. This leads to the " reduced-form equations " in which only the exogenous and lagged endogenous variables act as explanatory variables:

$$(2)\quad \left\{ \begin{array}{l} x_1 = c_{11}\, y_1 + c_{12}\, y_2 + \ldots + c_{1K}\, y_K \\ x_2 = c_{21}\, y_1 + c_{22}\, y_2 + \ldots + c_{2K}\, y_K \\ - - - - - - - - - - - \\ x_I = c_{I1}\, y_1 + c_{I2}\, y_2 + \ldots + c_{IK}\, y_K \end{array} \right.$$

In these equations all interdependences are disentangled and the coefficients indicate the final consequences that changes in the y-variables have on the endogenous variables. Thus the transformation of the structural equations into the above system of " reduced-form equations " is the crucial step in producing a set of equations which can be used for establishing the policies appropriate for achieving the plan targets.

The first stage of this procedure — forecasting the endogenous variables on the assumption of a continuation of existing policies — is carried out by inserting the values of the lagged endogenous variables (which are known from national statistics[28]) and estimates of the exogenous variables into the reduced-form equations. The values of the controlled exogenous variables (the instrument variables) are taken from policy decisions or, in the case of a continuation of recent policies, kept constant. For the other exogenous variables, estimates must be made. In general, these variables refer to other economies and to non-economic magnitudes such as the growth of the population. For the former group, estimates can sometimes be made on the basis of information published in the countries to which they refer. Estimates of changes in income or production in foreign markets — which often occur as explanatory variables in export equations — may be derived from information on the development of autonomous expenditure such as government expenditure or investment in these countries.[29] As far as import prices and prices in competitive markets are concerned, mere extrapolations frequently have to be used.

It must not be concluded from the fact that the bases of forecasts of endogenous variables are uncertain estimates of the exogenous variables that these forecasts could be made as accurately by simple extrapolations, avoiding the complications of the use of models; if the forecasts for the endogenous variables were made without the help of a model, they would never be consistent with each other. This problem does not exist for the exogenous variables because, for all practical purposes, they can be considered as independent of each other. If some of the estimates of the exogenous variables are very uncertain, the endogenous variables can be calculated for several alternative estimates. In this way the consequences of unpredictable changes in the exogenous variables can be explored.

The result of this first stage of plan preparation (that is, a forecast of future developments based on the assumption of a continuation of existing policies) can be compared with the desired path of development. If discrepancies are revealed, a change in economic policy is necessary. In relatively simple cases, particularly in those where changes in the target variables are pursued by means of changes in some clearly defined instrument variables, the following approach can be used for designing this policy.[30]

Suppose that in a certain situation two targets, referring to say employment and the balance of payments, x_1 and x_2, must be attained by using two instrument variables, y_1 and y_2. The value of the instrument variables can then be obtained from that part of the reduced form equations referring to x_1, x_2, y_1 and y_2:

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[27] The exogenous and the lagged endogenous variables are called predetermined variables; the endogenous variables are the unknowns in the system of equations.

[28] In general, both for medium- and short-term planning, many difficulties arise when establishing the statistics for the base year. For short-term planning based on a recent year, the collected data may still consist of preliminary estimates.

[29] This, however, would imply that planners had at their disposal fairly detailed models for these countries.

[30] This is the " fixed target approach ", first developed by J. Tinbergen, in *On the Theory of Economic Policy*, Amsterdam 1952.

$$(3)\qquad \begin{cases} x_1 = c_{11}\,y_1 + c_{12}\,y_2 \\ x_2 = c_{21}\,y_1 + c_{22}\,y_2 \end{cases}$$

Solving these equations for y_1 and y_2 gives

$$y_1 = \frac{c_{22}\,x_1 - c_{12}\,x_2}{c_{11}\,c_{22} - c_{12}\,c_{21}}$$

and

$$y_2 = \frac{c_{21}\,x_1 - c_{11}\,x_2}{c_{12}\,c_{21} - c_{11}\,c_{22}}$$

Inserting the target values for x_1 and x_2 into these equations gives the required values of y_1 and y_2. The latter values constitute the quantitative specification of the policy measures by means of which the target can be obtained.

This approach is subject to two important qualifications. In the first place, it leads to a definite solution only if the set of reduced-form equations relating instruments to targets can be solved. One of the conditions for this is that there be an equal number of targets and instruments in order to have as many equations as unknowns. If, in the example just given, three targets had to be obtained by two instruments, the system of equations would consist of three equations (one for each target) and two unknowns. In general, no set of y-values would satisfy all three equations simultaneously.

A second qualification refers to the values of the instrument variables which result from the solution of the system of equations. It is by no means certain *a priori* that these values would be politically acceptable for solving the policy problem in question. Extreme values, which no government or parliament could accept as a policy programme, might be obtained. Experience has shown that even with reasonable targets, the calculations suggest a need for very large changes in instrument variables. This is partly due to the fact that linear equations are used in the model. It has also been pointed out that the impact of changes in the various instruments, particularly in those available for macro-economic policies, is so similar that, occasionally, it will be difficult to find a combination of reasonable instrument values that can simultaneously achieve a number of targets. If one or more variables surpass their boundary conditions, they must be replaced by their upper or lower limits and the number of targets reduced accordingly. Then the calculations can be repeated. In this way an element of arbitrariness is inevitably introduced but, nevertheless, an impression is obtained of the scope available to the government for attaining its objectives.[31]

A more systematic approach for determining an optimal policy is the *flexible target approach.*[32] Whilst so far it has seldom been used in practice, this technique is examined here because recent developments in theory and practice suggest that it may begin to play a significant role in policy planning in the not too distant future. This technique allows the fixed targets to be replaced by a more flexible formulation of the objectives of economic policy. Each target is not specified as a precise figure, the objective being to maximize — subject to certain conditions — a preference index defined as a weighted average of some target variables, or perhaps only one variable. If, for instance, either the level of consumption per head and the investment ratio in a longer-term policy, or a reduction of a balance-of-payments deficit and a satisfactory level of employment in a short-term situation, are the aims of government policy, these targets are not specified as fixed money values or fixed percentages, but a function of these variables is defined that must be minimized subject to the relationships formulated in the model of the economy and to boundary conditions for all relevant variables. Using the symbols introduced above (p. 14), a preference index — if only endogenous variables are introduced — can be defined as:

$$(4)\qquad P = p_1\,x_1 + p_2\,x_2 + \ldots + p_l\,x_l$$

where the p_i are the weighting coefficients.[33] These coefficients measure the relative importance the policy-maker attaches to the various targets. Using the reduced-form equations the preference index can be expressed in terms of the exogenous variables. This is done by inserting equations (3) into (4). Then values for the instrument variables can be chosen, within their admissible ranges, so as to maximize P. Several mathematical devices have been developed for making this choice.[34]

The estimation of the coefficients of the preference index — the measures of the relative priorities of these targets to the policy-maker — can be very difficult, particularly in the context of business cycle problems, where a relatively large number of targets, such as the balance of payments, unemployment, prices and wages, and the level of investment, must be taken into account. For certain purposes, however, it may be sufficient to include only one target variable in the preference function, thereby avoiding the use of weighting coefficients. Thus, in longer-term planning, the main emphasis is usually placed on the maximization of real national income or consumption per capita.

The techniques discussed above have the advantage of bringing out sharply the fundamental aspects of the problems of policy-making. The rigorous applicability of these techniques, however, depends on the extent to which the desired policy can be "directly" translated into changes in some clearly defined exogenous variables within the framework of reasonably accurate models containing all the relevant information. Moreover, the solution of the models should not involve any impracticable computing load.

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[31] The qualifications mentioned here are related to the concept of consistency. Subject to the second qualification, the first one states that even contradictory targets such as, for instance, " higher wages and lower prices ", can be made consistent by using a sufficient number of instruments with sufficiently different impacts. It can never be judged *a priori* whether or not a set of targets is inconsistent; this depends on the number of instruments and the scope for using the instruments as defined by the boundary conditions.

[32] See J. Tinbergen, *Centralization and Decentralization in Economic Policy*, Amsterdam, 1954. An example of the practical application of this technique is given in J. Sandee, *A Demonstration Planning Model for India*, Calcutta 1960.

[33] Some of the p_i will be zero; not all endogenous variables are important from a viewpoint of economic policy. On the other hand, some instrument variables may also be included.

[34] For the results of a rather simple experiment in this field, see C. J. van Eijk & J. Sandee, " Quantitative Determination of an Optimal Economic Policy ", *Econometrica*, No. 1, 1959. See also C. C. Holt, " Linear Decision Rules for Economic Stability and Growth ", *Quarterly Journal of Economics*, February 1962.

In the case of global models, comprising the main aggregates of national accounting, the strict techniques can often be applied. However, difficulties are encountered when the government wishes to change certain market relationships through policies designed to influence the behaviour pattern of consumers and entrepreneurs. In such instances, it may not be possible to specify the available policy instruments in quantitative terms within the framework of the model, but their estimated effect may be incorporated in the form of an additional exogenous variable. Thus, a variable may be introduced to indicate the additional personal savings which might result from various types of policy measures contemplated by the government.

Similar problems arise when the government wishes to change technical relationships, for instance between final output and imports of raw materials and semi-manufactures and between production and inputs of labour and capital. A solution may also be found in this case by introducing additional variables to indicate the exogenously estimated effect of policies to be pursued by the government.

The practical difficulties become much greater in cases where problems related to sectors of the economy or branches of industry are involved, and where the analysis must be extended beyond the macro-economic variables. As will be shown below, the sectoral models in actual use do not contain all the information required, partly because of lack of knowledge of the relationships and partly because of the inadequancy of statistical data. Moreover, even if all the required information were available, models constructed for a great number of sectors would be too large to be solved. It follows that, in general, it is not possible to relate policy instruments by means of reduced-form equations to all the endogenous variables distinguished in sectoral models. Consequently, other methods which could provide the data necessary for designing policies, though they may be less systematic than those described above, must be found.

In section 4 alternative approaches of this type will be described in some detail. Essentially, they consist of estimating, on the basis of policy alternatives, various sets of endogenous variables which satisfy the equations that can be specified. Other variables, which ideally should also be considered as endogenous, are estimated outside of the model by reference to the same policy alternatives in order to ensure consistency. The assistance of experts is required to make the latter estimates, which may refer to such variables as exports, investment and government expenditures. Approaches of this type cannot determine explicitly the impact of changes in policy instruments on the targets, but a comparison of the implications of alternative policies provides valuable indications for designing a final policy programme.

Model construction

In this sub-section some remarks will be made on the structure of the main equations occurring in econometric models and on some problems of model construction. The equations can be divided into several groups, the most important of which are balance, institutional, technical and behaviour equations.

(a) *Balance equations.* — These represent the balances of the various accounts that can be drawn up to describe the main flows of the economic process. The central equation is that which equates national product plus imports (total resources) with the sum of consumers' expenditure, government expenditure, investment and exports (total expenditure). Similarly, for an individual industrial sector there is the identity of total sales with value added, purchases of inputs, etc., and stock changes. Balance equations can also be constructed for other sectors of the economy — households, the government and foreign sectors, etc. In sectoral models there will be a large number of such equations which together form a complete input-output system. This part of model building could only be developed after the results of national accounting research became available in the early post-war years. Not until then was a consistent set of accounting concepts, that could ensure a complete statistical coverage of all important flows, defined. At this stage it also became possible to construct the time-series of economic variables that are needed for estimating the coefficients of the equations in the model in such a way as to guarantee consistency among the definitions of the variables in the various equations.

(b) *Institutional equations.* — These equations, which have as dependent variables the values of such items as indirect and direct tax receipts, unemployment benefits, social security premia and other transfer payments, portray the institutional environment of the economy. Some of the less complex instruments of economic policy feature in these equations. Their coefficients, for example the one which relates indirect tax receipts to consumers' expenditure, are based essentially on laws and other government regulations.

(c) *Technical equations.* — Production functions, showing output or production as a function of inputs of capital, labour and — in sectoral models — raw materials, belong to this group. Technical equations are also established for determining imports of raw material and semi-manufactures.

(i) Several types of production function can be distinguished. In some models, production functions relate to the economy as a whole, whereas in others they refer only to parts of the economy (for example, to total production *less* agriculture or only to industry). Also, separate functions for individual sectors of production may be introduced. They can be based on the assumption of substitutability of production factors or on the assumption of complementarity. Assuming substitutability leads to a production function which allows a certain level of production to be reached by means of alternative combinations of labour and capital determined by the long-run changes in such factors as the prices of these inputs or the level of unemployment. Assuming complementarity means that, for a given level of production, the factors of production are used in fixed proportions. These proportions may vary over time with technical progress, or with the level of production. Most postwar models are based on the second assumption, which, statistically, accords reasonably well with actual developments. Interest in production functions based on the substitutability of factors has recently increased in the light, firstly, of relatively high rates of economic growth in some countries enjoying only small increases in the working population and, secondly, of the results of some rather convincing empirical studies of this problem.[35] Until recently the most widely used production function was the Cobb-Douglas function.[36] However, since this function assumes a very special type of substitution — that the substitution-elasticity coefficient is equal to unity — new mathematical forms have now been developed.[37] Considerable attention has also been given to the way in which technical progress might affect factor substitution.[38] However, these problems have not yet been solved satisfactorily and the derivation of an equation which realistically describes the growth of production capacity remains one of the greatest problems in long-term planning. Two aspects of the problem deserve special attention: what considerations determine the extent of factor substitution; and how does substitution operate for capital goods already in existence?

(ii) Imports of raw materials and semi-manufactures (i.e. inputs) are mostly related to the level of production or the level of final expenditure though, in some cases, relative prices of domestic and foreign goods are taken into account to allow for substitution possibilities. These equations are becoming particularly important, but they are difficult to handle in the case of sectoral models.

(d) *Behaviour equations.* — These equations describe the reactions of the members of the community in their roles as consumers, entrepreneurs and workers. For certain categories of expenditure behaviour equations are generally introduced — consumption functions, investment functions, export functions and functions for stock accumulation. Government expenditure is often considered to be an exogenous variable.

At both a theoretical and empirical level consumers' behaviour has been more completely analysed than investment behaviour. Most models include fairly reliable consumption functions, both for total consumers' expenditure and for expenditure on individual products or groups of products. In the macro functions, disposable income — that is, income net of taxes but including transfer payments, often apportioned between such broad categories of recipient as wage-earners, farmers and rentiers — is the main explanatory variable. In short-term analyses, the liquidity and wealth of the community and also price movements are introduced, too. In those longer-term models where investment is determined by the growth of production, and (*ex ante*) savings are equated to investment, consumption is derived as a residual (see section 4). In sectoral models total consumption is usually apportioned between the various production sectors by means of a set of coefficients of the elasticity of demand with respect to total consumption, and, in some cases, by elasticities with respect to price. Estimates of these coefficients may be based on time series or on family budget surveys.[39]

Neither the theoretical nor the empirical basis of investment functions is very reliable. In the case of short- and medium-term models, the level of investment may be theoretically linked to the difference between the existing and the optimum capital stock. The latter depends on changes in such variables as relative factor prices (the wage level, interest rates and prices of investment goods, etc.) and the expected level of output. The rate of adjustment of the actual capital stock to the optimum level, which determines the rate of investment, probably varies with recent and anticipated profits, the liquidity (accumulated depreciation funds and undistributed profits, etc.) of the relevant organizations, and interest rates. It has proved to be very difficult, both theoretically and empirically, to attach weights to these various considerations. Therefore, in order to make forecasts of investment levels it is usually necessary to have recourse to less systematic indicators. Some notions of future investment levels can often be gleaned from special enquiries and, in many countries, much construction is still controlled by government agencies so that the expected amount of construction can be estimated relatively accurately on the basis of licences issued for a certain period, or from statistics of building starts. In longer-term models, if a production function based on the assumption of complementarity between factors is used, the level of investment can often be deduced directly, given the increase in the working population (see section 4).

In models of open economies the export functions are important, although experience has shown that the econometric derivation of these functions, up to now, has not been very successful, forecasts of the level of exports frequently being too pessimistic. The main explanatory variables that are suggested by economic theory are the level of demand in foreign countries (usually gauged by changes in production or income) and the ratio of domestic to competing, or world market, prices. Recently (in Sweden, for example), some attempts have been made to formulate functions separately for the various regions to which the country exports.

In so far as they are used, equations which determine the level of stock accumulation are based mainly on acceleration theories. Again, the process of making estimates of the coefficients in the function is often hindered by the lack of suitable and sufficient data.

Three types of problem are encountered when setting up these equations: the choice of the explanatory variables to be used in each of them; the choice of the mathematical form of the equations; and the estimation of the coefficients. These problems are relatively minor in the case of the balance and institutional equations. In the former case, the variables to be included are derived directly from the national accounts and in the case of the institutional equations the variables in question are implicit in the laws and regulations which govern these relationships. Similarly, the coefficients and the form of both these types of equations are easily established.

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[35] Cf. W. E. G. Salter, *Productivity and Technical Change*, Oxford 1959.

[36] See, for instance, the SURVEY for 1961, Part 2, Chapter II, Annex A.

[37] R. M. Solow, " A Contribution to the Theory of Economic Growth ", *Quarterly Journal of Economics*, February 1956.

[38] R. M. Solow, " Investment and Technical Progress ", *Mathematical Methods in the Social Sciences*, Amsterdam 1959 (ed. K. I. Arrow, S. Karlin & P. Suppes).

[39] See, for instance, J. Sandee (editor), *Europe's Future Consumption*, Amsterdam 1964.

In contrast, technical and behaviour equations are usually difficult to formulate. As shown above, economic theory affords some guidance in the choice of the variables but it may be inadequate in that, frequently, it gives alternative and contradictory explanations. In most cases these contradictions are due to differences in initial assumptions, which implies that no models can be constructed which are valid in all circumstances. For instance, as already pointed out, no firm conclusions have yet been reached about the variables which might explain the demand for investment goods. Both theoretical considerations and the analysis of statistical data have indicated that in periods of rapidly increasing output the demand for investment goods is probably determined by such variables as the rate of change of production and the degree of utilization of productive capacity, whereas in periods of stagnation, variables such as the level of profits and the availability of liquid assets are the more important.[40] It should also be realized that the choice of variables will frequently depend on the period to which these relationships pertain. For instance, in short-term models, no production function — normally constructed as a relationship in which output depends on capital and labour inputs — is used since, in the short run, the capital stock can hardly affect the level of production, which therefore is determined by the demand for final products.[41]

For behaviour and technical equations, statistical techniques such as correlation analysis can be used to supplement economic theory in order to decide which are the most important variables to be taken into account. Tests have been developed to indicate which variables are important and which unimportant for explaining movements of the dependent variable. However, such procedures are not always unambiguous and they may not lead to conclusive results. Moreover, it is obvious that, for practical purposes, the number of explanatory variables in each equation must be kept relatively small and, therefore, that only the most important and systematic factors can be introduced. As a result, the equations will never give a complete explanation of past movements of the endogenous variables and there will always be a " residual ". Applications of such a model to the exploration of future developments of economic magnitudes implies, therefore, that only a broad picture can be obtained and that many details must be omitted. Errors will also arise since, for practical reasons, linear or logarithmic-linear equations are chosen in most cases as approximations to the true non-linear relationships; non-linear models cannot be easily solved and no simple methods have so far been developed for estimating the coefficients of non-linear equations. The errors in forecasts and in policy conclusions which result from linearization may be minimized by measuring the variables in terms of changes from year to year and by applying the model only to small changes or growth rates.

Even greater difficulties are encountered when estimating the coefficients of the behaviour and technical equations than when making a choice of variables. Statistical analyses, often based on refined econometric methods, of many kinds of data are required. Time series of consumers' expenditure, investment, exports, national income and imports, etc. — at either a macro-economic level or for the different sectors of the economy — comprise the basic data. To illustrate the procedure, it may be supposed that in a linear equation describing the demand for a certain consumer-good C_t, national income Y, and relative prices p_t/p are chosen as explanatory variables and, in a linear form, the equation is:

$$C_t = a\,Y + b\,p_t/p + c + u$$

The symbol u denotes an error term which allows for the fact that the form of the equation only approximates to the true relationship and that not all of the explanatory variables have been taken into account. With reasonably long time series for C_t, Y and p_t/p, coefficients a, b and c can be calculated such that the equation best fits the data. As a criterion for " goodness of fit ", variations in the dependent variable which remain unexplained by the equation are often used. The least squares method, for instance, yields coefficients which minimize the sum of the squared residuals. In some cases, particularly for estimating the coefficients of consumption functions but also for the analysis of investment behaviour, cross-section data may be used instead of time series. In the case of consumers' expenditure, data obtained from household surveys permit income elasticities to be gauged from differences in the demand for a certain product among various income classes.[42]

This brief description should not be allowed to disguise the fact that there are serious conceptual and practical difficulties involved in estimating coefficients of econometric equations. For example, the problem of intercorrelation is encountered when movements of explanatory variables have been so similar (as during the postwar period, when most macro-economic series displayed a similar upward trend) that their respective influences on the dependent variable of the equation cannot be identified.[43]

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[40] See, for instance, J. Meyer & F. Kuh, *The Investment Decision*, Cambridge (Mass.) 1957.

[41] See p. 32.

[42] The basic assumption here is that differences in the patterns of expenditure among income classes are the same as those observed if a certain income class enjoys an increase in income.

[43] A second conceptual problem stems from the fact that the separate relationships form part of a complete set of equations. One assumption of the least squares method of estimation is that the residuals are not correlated with the explanatory variables so that, in the above example, u must be assumed to be independent of Y. However, in the complete system, Y is an endogenous variable which is determined by a balance equation in which consumption is one of the " explanatory " variables. Thus, indirectly, u—the residual of C_t—influences Y, thereby invalidating the above assumption. Several devices have recently been developed in an effort to overcome these difficulties. (See H. Theil, *Economic Policy and Forecasts*, Amsterdam, 1956, p. 334. A simple exposition of the problems of simultaneous estimation is to be found in S. Valavanis *Introduction to Econometrics*, New York 1959.)

A practical hindrance to the estimation of the coefficients is the lack of appropriate statistical data. For example, time series are frequently too short for the application of correlation techniques, or because of political disturbances they may reflect real economic phenomena only very imperfectly; time series may be unusable because of a " break " between a new and an old series; contrasts in the quality of various series also make it difficult to analyse the information; data on consumption, imports and exports are usually fairly reliable, whereas data on capital stock and inventories are often lacking or very imperfect.

In countries, and also in sectors, where development is very rapid or is likely to be accelerated, the further difficulty arises that relationships derived from past observations may have little relevance for the future. This is particularly true of technical relationships where, for instance, the observed dependency of production on the input of capital and labour in the past may bear little resemblance to that implied by the new techniques incorporated in the plan. In such cases, one way of gauging the new relationship may be to make use of the observed relationships (such as those set out in input-output tables) in countries that have already attained the economic structure and level of technology at which the planners are aiming. Alternatively, the consequences of the execution of large individual projects incorporating very new techniques may possibly be judged from technical data provided by the technicians concerned. A similar problem may be encountered in the case of consumption functions when, as in the developing countries, the expected increases in income may totally invalidate the assumption of linearity of the functions. Or, in other cases, the impact of the process of industrialization may change the attitude and tastes of consumers to such an extent that past observations are no longer of much use. In such circumstances it may be necessary to make rough estimates of the magnitudes in question.[44]

It will be appreciated that because of the many shortcomings, both conceptual and practical, which still attach to the formulation in quantitative terms of the interrelationships of the economy, much of the technique described above must be regarded as an ideal which should be, and is being, gradually approached in practical work. Given the advantages which a technique of plan construction based on quantitative methods would possess, it would be wrong to abandon such an approach on account of the difficulties which still persist. Moreover, information concerning a large number of relationships — particularly the balance equations — now exists in most countries; and there is a steady tendency for the techniques to improve, for the statistical information to become more abundant and for the practical limitations to become less significant.

Medium- and short-term models

Although measures to dampen business-cycle fluctuations are not the proper subject of this study, the techniques and machinery used for the preparation and application of short-term economic policies are not only of interest for the solution of this problem but are also important for guiding the economy towards the longer-term objectives. They therefore merit attention along with the medium-term models. There are three important links between short-term policies and medium-term objectives. First, the desired " phasing " of the plan over the full planning period can only be effected by an appropriate manipulation of short-term policies. For example, it may be desirable that the bulk of the rise in the investment ratio envisaged over a five-year plan period should take place in the first two years; and such a requirement will have important implications for the short-term measures needed. Alternatively, policies designed to promote the desired longer-term development may have to be temporarily modified to avoid immediate effects — such as strains on the labour or capital markets or a threat to the balance of payments — which might in fact endanger the execution of the medium-term plan. Secondly, whereas the medium-term plan can be a guide for measures to promote the longer-term growth of the economy's resources, it is short-term policies which have to be manipulated to ensure the appropriate degree of utilization of resources throughout the period of the plan. Thirdly, the exogenous variables over which the authorities have little or no control may display unexpected developments during the course of the plan, and the necessary measures to minimize the need to modify priority targets will again be a matter for short-term policies; thus such measures are also essential for the flexible execution of the plan.

Differences between medium- and short-term models stem largely from the fact that the influence of one variable on another is not instantaneous and that the " time-lag " in the different relationships varies. Consequently, the variables in any equation will not usually refer to the same time period. For instance, consumption in any year may be influenced not only by income in that year, but also by income in preceding years; similarly, whereas the variables influencing an investment decision frequently relate to previous years, the impact on production of new investment will only be felt in subsequent periods; and the adaptation of prices to cost changes usually requires time, so that the final effect of a wage increase will normally be greater than its immediate impact.

However, as was noted above, and as becomes clear from the descriptions of national practices in section 4, the main difference between medium- and short-term models lies in the manner in which capital formation is treated. In short-term models investment is simply treated as a category of demand whereas in a medium-term model it needs to be considered both as a category of demand and also as an addition to a factor of production, capital. This distinction is frequently a source of difficulty when designing short-term policies that seek to stabilize the degree of utilization of capacity as well as to promote the growth of this capacity.

Finally, estimation problems tend to be rather more intractable in the case of short-term models, where the relationships between short-term fluctuations in the variables need to be taken into account.[45] In contrast, a knowledge of certain key ratios, such as capital-output ratios and the distribution of total investment between the various types of asset, may often be sufficient for the construction of a medium-term model.

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[44] The longer the plan horizon, the more difficult this problem becomes.

Input-output techniques

In this chapter attention has several times been drawn to the use of input-output techniques for plan preparation. It was indicated that these techniques constitute an indispensable tool for the analysis of sectoral developments, but that the economic content of sectoral models is still comparatively modest in the case of both technical and behaviour relationships. Therefore, they provide primarily a framework for policy-making. Certain technical aspects of input-output analysis are discussed below. Input-output techniques are based on input-output tables which present, usually in money terms, the balances for several sectors of the economy or branches of industry. These balances are based on the equation of total output — the sum of the values of intermediate deliveries and final output (the latter, in turn, equalling the total of the final expenditure categories, consumption, investment, exports) — with total costs, that is the sum of the values of intermediate and primary inputs (imports, value added and indirect taxes).[46]

In certain conditions the cost structures of the various branches of industry can be derived from the transaction matrix of an input-output table (that is the rows and columns which trace the flows of intermediate products), and the primary input columns.[47] Two of these conditions which are important are that the elements of the transaction matrix represent actual inputs, in other words they are adjusted for changes in stocks, and that the branches of industry are homogeneous with respect to output. Ideally the classification of branches would be such as to ensure that each branch produces only one product but, in practice, input-output tables are subject to such a degree of aggregation that they contain only a limited number of sectors, the outputs of which are heterogeneous. Therefore inputs and outputs can only be recorded in money values, not in physical units. This implies that the technical coefficients derived from such a table depend partly on the composition of output and partly on relative prices. Some countries, for instance Denmark and Norway, have based their input-output tables on very detailed information and this has increased the reliability of the technical coefficients. However, for many practical purposes, technical coefficients which are derived from more aggregated data may also be useful.

The technical coefficients may be considered as coefficients of production functions based on the assumptions of complementarity and proportionality of inputs. They indicate the value of inputs of intermediate products and primary factors required per unit of output. This means that if they are used for forecasting or policy planning they will possibly have to be adjusted for technical progress and to allow a certain scope for substitution on account of changes in relative prices. The mathematical form of the production functions which are derived from input-output tables, since it assumes complementarity and proportionality, does not automatically allow for such adjustments. Therefore special corrections need to be made which can give rise to complicated technical problems. When input-output techniques are used in developing countries, these problems may become particularly complex.

When the required adjustments have been made the coefficients can be used for deriving from changes in final demand the resulting changes in output, value added, imports, indirect taxes and intermediate demand. The main problem which is encountered in making this assessment is associated with the interdependences which exist between the various sectors of the economy. If demand for the final products produced in a given sector increases, the output of that sector rises. This rise generates a greater demand for the intermediate products used by that sector and this, in turn, stimulates production in the other sectors, and so on. Mathematical techniques have been developed for taking account of all these effects yielding, systematically and simultaneously, the level of production required from each sector.[48]

Similar problems arise when tracing the influence of changes in the prices of primary inputs (for example, wages and import prices) on the output prices in the various sectors. Prices of products in a particular sector are affected not only directly by costs in that sector but also, via the interdependences, by costs in other sectors.

For constructing the production programmes of the various sectors, estimates are first made, from planned changes in the macro-economic categories of expenditure, of changes in the final demand for the products of these sectors. It has been pointed out that in the case of private consumption this is achieved by means of a complete set of sectoral consumption functions which relate the consumption of a certain product to total consumers' expenditure, relative prices and, if necessary, other factors that are of special importance for the sector concerned. For various countries complete and detailed consumption models have been formulated and the coefficients estimated statistically.[49] The breakdown of government consumption is usually based on detailed budget accounts, and assuming that the government provides the necessary

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[45] For example, whilst it may be possible to set up reasonably accurate predictive equations for long-term changes in the level of investment, short-term fluctuations in this variable are notoriously difficult to determine regardless of the method — econometric or inquiry — which is employed.

[46] Imported raw materials may also be recorded as intermediate deliveries, if they can be allocated to the competing sectors of production.

[47] Cost structures are frequently described by "technical coefficients" — the individual input elements expressed as a fraction of the total output of the sector in question.

[48] If A is the matrix of technical coefficients of intermediate inputs, X the vector of sectoral changes in output and F the vector of sectoral changes in final demand, X is related to F by:

$$X = (I - A)^{-1} F$$

where I is the unit matrix.
If B is the matrix of primary cost coefficients, primary inputs Y are given by:

$$Y = B\,(I - A)^{-1} F.$$

The matrix $(I-A)^{-1}$ gives the cumulated production quota and the matrix $B\,(I-A)^{-1}$ the cumulated cost quota.

[49] See, for instance, J. Sandee (editor), *Europe's Future Consumption*, Amsterdam 1964.

information, this presents no special difficulties. The apportionment of total investment in fixed assets over the branches of industry also presents only relatively minor problems. The sectors which supply most investment goods are construction, the metal and engineering industry and the external sector (imports).[50] The two domestic sectors' shares of investment are usually relatively stable, and recent shares may be used for apportioning total investment. In rapidly developing countries this method may not be satisfactory but in such cases the necessary information will usually be available from the agencies in charge of the development projects.

The treatment of stock changes, which can show violent fluctuations, is one of the weakest features in input-output analysis. However, this category of expenditure is important in medium- and long-term analysis only in so far as stock changes are a function of the level of production; and since input-output techniques are mainly used in this sort of analysis, expected changes in the pattern of production can be used for distributing stock changes among the sectors.

The distribution of exports over the various sectors should be based on extensive analyses of foreign markets. In some industrial countries detailed export equations are indeed available, but for others the apportionment will have to be based on extrapolations or simply on other rough estimates.

Given the sectoral breakdown of total final demand, sectoral outputs can be calculated by the method described above. In addition, using the primary input coefficients, the values of imports, value added, etc., can be found. With the help of capital-output ratios estimates can be made of the capital stock required and therefore of the investment needed in the various sectors. These estimates provide a check on the initial macro-economic investment estimates and, if discrepancies are revealed, an iterative procedure can be used to provide more consistent macro and sectoral estimates.

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[50] Trade margins on investment goods are usually recorded in the wholesale trade sector.

4. PLAN MODELS IN SELECTED COUNTRIES

Introduction

The extent to which use has been made of models in the preparation of various medium- and long-term plans in certain western European countries is examined below. Attention is concentrated on the general structure of a number of models and on the principles of policy-making, since it would be impracticable — and would serve little purpose — to describe the various models in full detail. In particular, no attempt is made to spell out the details of the techniques used for drawing up the plans or projections for individual sectors of activity, inasmuch as these are dictated by the peculiarities of these sectors in the different countries. In examining mathematical planning techniques in this section common features have been singled out; and, in fact, contrasts in these techniques are much less significant than the differences in the planning machinery of the various countries briefly described in section 2.

For several reasons, most countries have until now been reluctant to publish details of the methods used in the preparation of their plans, and it is consequently difficult to assess the contribution of mathematical techniques to the planning process. However, from available descriptions of plan preparations it appears that, in nearly all the countries included in this study, some type of econometric model is used in the preliminary stages. In all cases, however, preliminary estimates based on these methods are verified in the course of consultations with government officials and representatives of the private sector. Experience has shown that although models cannot be used as machines which, when fed with data, produce clear-cut answers to all policy problems, they are nevertheless useful, and indeed probably indispensable, tools for policy planning.

Models which take account of all variables in all sectors of the economy do not exist; only the most important variables and relationships are, in practice, included. The econometric models which are actually employed for policy-making generally consist of two parts. The first is a macro-economic part, consisting of balance equations derived from the national accounts and supplemented by some macro-economic behaviour equations, price and import equations, and a simple production function. The second consists of equations (or sometimes simply percentage breakdowns based on past observations) for apportioning estimates of total final demand to the various sectors of the economy and a matrix of technical coefficients for calculating the output of each sector on the basis of these estimates of final demand.

Naturally, the scope and structure of the national models vary. Whereas in Norway, a relatively large number (129) of sectors and of branches of industry has been distinguished, in the Netherlands not more than some 15 sectors have been used. There is a tendency in all these countries for the number of sectors to increase. In the French fifth plan, for instance, some 100 sectors are distinguished. On the other hand, the models in the Netherlands are rather more elaborate than others in that a large number of explanatory economic variables have been introduced, thus allowing a more refined description of the consequences of policy measures or changes in external conditions. Moreover, the use of models for elaborating short-term stabilization policies has been carried further in the Netherlands than in other countries. In French practice econometrics is less important than the extensive consultation which takes place between planners, other government officials and representatives of the private sector.

The elaboration of plans for certain sectors of the economy sometimes relies heavily on mathematical techniques. In some countries — and certainly in the European Coal and Steel Community — energy problems and policies have been analysed by such techniques, and the indications are that policies for these sectors have been influenced by the results; however, such sectoral studies are not discussed here.[51]

The medium- and long-term plan models and techniques of forecasting and estimation, chosen for brief review below, relate to:

(*a*) For the Netherlands, the model which formed the basis of the study of the period 1950-1970.[52]

(*b*) For France, the model used in the preparatory stage of the fourth plan, 1962-1965.[53]

(*c*) For Norway, the model used for the 1962-1965 plan.[54]

(*d*) For Belgium, the model used for the 1962-1965 plan, of which a non-mathematical description is given in the plan document.[55]

(*e*) For Sweden, the 1961-1965 plan.[56]

(*f*) For Greece, the 1960-1969 perspective and the 1960-1964 five-year plan.[57]

(*g*) For Turkey, the model used for the 1963-1967 plan.[58]

It will be seen that in order to maintain consistency among the estimates, the long- and medium-term plans of the above countries are based on a quantitative formulation of the main relationships in the economy, either in the form of a complete model or of some isolated equations for partly verifying the coherence of certain individual estimates. In so far as complete models are used, they are generally rather simple — consisting of the main balance equations of the national accounts, a production function, and some behaviour equations — the whole being supplemented by equations describing the inter-industry relations. In most cases it has proved difficult, if not impossible, to discover which techniques have been used for estimating the coefficients of the models, but it is safe to assume that they have very seldom included sophisticated methods.[59]

The final long-term plans giving quantitative expression to the policy objectives and the instruments for attaining them are generally not derived from reduced-form equations — although in theory this would be the most systematic approach — but rather by exploring the implications of a number of alternative assumptions about the values of the instrument variables for the values of the target variables, or *vice versa*. This renders it impossible to judge whether the combination of policy measures and their results is optimal in a strictly defined sense; but if a reasonable number of variants is worked out, an evaluation which is sufficiently accurate for all practical purposes can be obtained of the government's possibilities of attaining its policy objectives. Greater rationality can, in some cases, be sought by increasing the number of variants — as is intended in France — by including, for example, alternative hypotheses about those data which are least reliable, as well as about the most important relationships which are subject to uncertainty.

In several of the countries discussed in this section, annual plans are drawn up in the form of national budgets. The connexions between these plans and the medium-term plans were briefly discussed in the previous section, which also indicated some of the differences between the models used in short-term and medium-term planning. The short-term models actually used are briefly discussed in sub-section (*h*).[60]

In what follows the long-term plan model of the Netherlands is taken as a starting point, since — although the 1950-1970 forecasts are already out of date — it still represents a good example of the use of econometric techniques in policy-making. Moreover, it is the only long-term model actually in use which has been published in its entirety; and it is a model which is more elaborate than the others in respect of economic content, though not in terms of the number of sectors distinguished. For other countries, only general descriptions of the models are available. The ways in which the models are used in the various countries for analysing policy problems are rather similar. A further reason for choosing this model as a starting point is that the technique used in the Netherlands has been described in some detail, especially as regards the policy instruments in the long-term study, 1950-1970.[61]

(a) The Netherlands

The model for the 1950-1970 plan

The model can be conveniently examined in its two parts, the macro-economic part and the sectoral breakdown. The equations forming the macro-economic part are of the kind listed in section 3. The balance equations are fairly straightforward. National production is equated to the sum of the various categories of expenditure *less* imports, and national income is defined as the difference between production and depreciation, corrected for changes in the terms of trade.

Among the behaviour equations, the consumption function is one in which consumption is related to national income by means of a simple average propensity to consume. Capital formation, defined as the difference between savings (national income minus consumption) and the balance-of-payments surplus, is, therefore, basically determined by the average propensity to save. The current balance-of-payments surplus is considered as one of the targets and regarded as a growing magnitude. An export equation is introduced where, in addition to an autonomous element which is apparently linked to the development of production abroad, the main explanatory endogenous variable is the ratio of the Dutch export price index to that of competing countries. These equations determine the main macro-economic categories of demand. An equation for the supply of labour has population growth (in turn dependent on demographic factors including emigration) and changes in the standard of living (measured by national income per capita) as its main explanatory variables.

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[51] In the Netherlands, planning problems in the field of education have also been examined by means of econometric methods.

[52] See, for instance, *Scope and Methods of the Central Planning Bureau*, The Hague, 1956, and P. J. Verdoorn, " Complementarity and Long-range Projections ", *Econometrica*, October 1956.

[53] Discussed by J. Bénard in " Production et Dépenses Intérieures de la France en 1970 " in *Europe's Future in Figures*, Ed. R. C. Geary, Amsterdam 1962.

[54] See Per Sevaldson, " An interindustry model of production and consumption for economic planning in Norway ", paper presented to the Seventh General Conference of the International Association for Research in Income and Wealth, Tutzing, western Germany, August 1961 (to be published).

[55] *Programme d'Expansion Economique, 1962-1965.* (Sénat de Belgique, Session de 1962-1963, 13 décembre 1962: Projet de loi portant approbation du premier programme d'expansion économique.)

[56] *The Swedish Economy 1961-1965, Report of the 1959 Long-term Planning Commission*, Stockholm 1963.

[57] Ministry of Co-ordination, *Five-year programme for the economic development of Greece, 1960-1964*, Athens April 1960.

[58] *Notes for the Colloquium on the Technical Aspects of Turkey's Long-term Plan*, State Planning Organisation, Ankara May 1962.

[59] Exceptions are the consumption functions in all countries, and the Netherlands short-term models.

[60] The order of discussion of individual countries is different from that adopted in Chapter V; but the order has been chosen in each case for convenience of exposition in the context of the subject matter of the chapter.

[61] *Een verkenning der economische toekomst-mogelijkheden van Nederland 1950-1970*, Central Planning Bureau, The Hague, 1955.

The production function, among the technical equations, is based on the assumption of complementarity between factors of production and consists of two parts: first, an assumed ratio of the percentage increase in capital stock to that of the percentage increase in total output of 0.8; and, second, an assumed ratio of the percentage increase in employment to that of the percentage increase in total output of 0.275.

The import equation has total output, and the proportion of output exported, as the main explanatory variables. The latter variable is intended to reflect the influence of the growing international division of labour due, *inter alia*, to the liberalization of trade. The import equation also contains a trend term providing for import substitution; this factor and the second of the explanatory variables just mentioned influence the level of imports in opposite directions.

As the model is constructed in constant prices, exports excepted, price formation is given little attention. Export prices, however, are considered as a function of the wage level (though this is not explicitly specified in the model). Since the ratio of the Dutch export price index to that of competing countries is one of the factors determining exports, the wage level is implicitly treated as the ultimate policy instrument influencing exports.

Before showing how the model has been used to explore the economic potential of the Netherlands, a non-mathematical description of the working of the economy which it implies is attempted. Inevitably, however, such a description is unsatisfactory, because the interdependences are in fact simultaneous, whereas the description necessarily starts from some arbitrarily chosen point in the causal chain. Chart I provides a schematic presentation of these relationships.

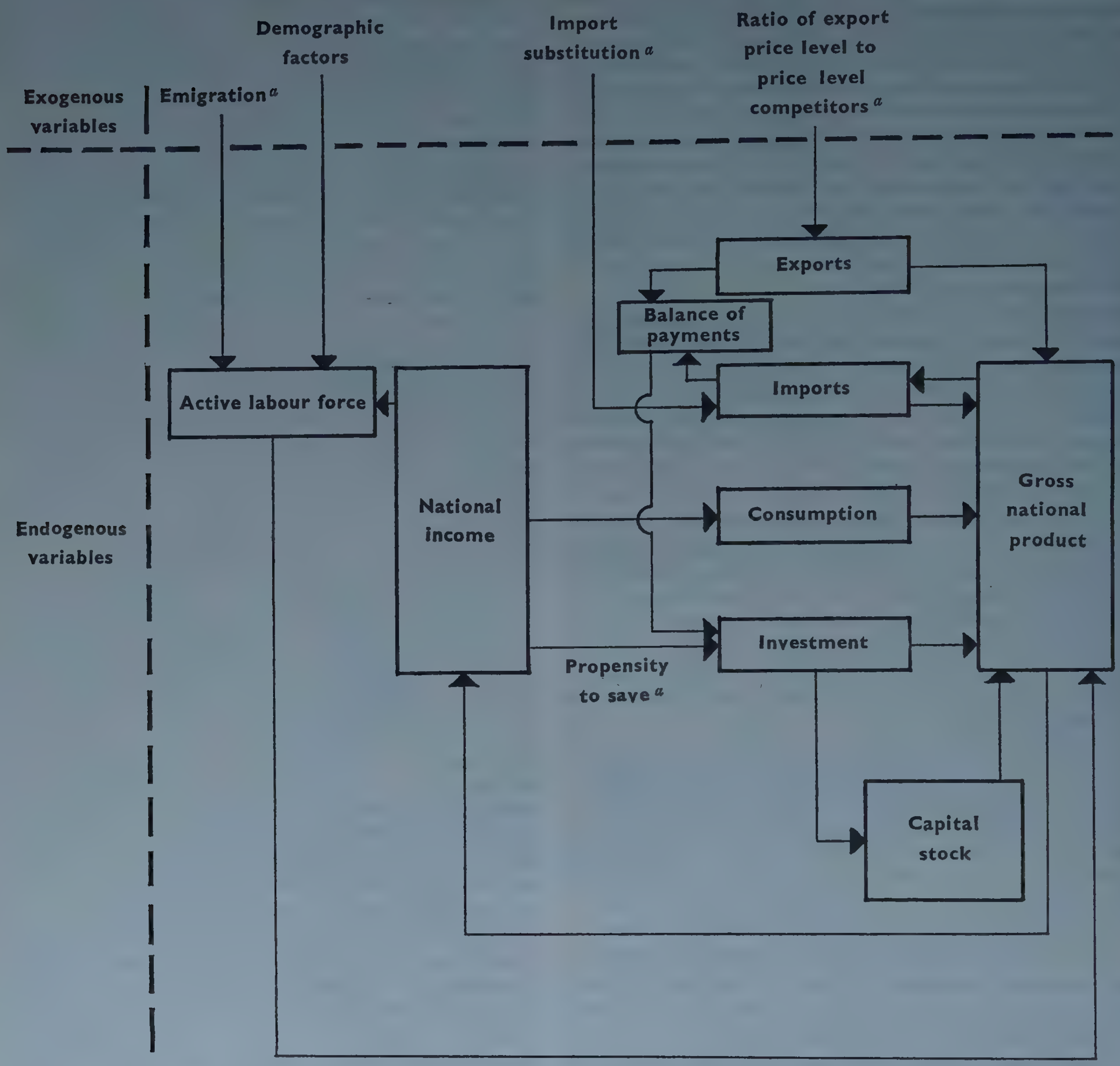
The value of net savings is determined by national income and the propensity to save, and itself determines net investment, including the balance-of-payments surplus. Changes in the gross capital stock can then be derived by means of a (preliminary) estimate of net capital formation and of the estimated need for replacing capital. With the help of the production function, gross domestic product can then be calculated. If, however, it is labour which is the limiting factor, the supply of labour will determine the level of gross domestic product, and capacity will then be underutilized. Gross domestic product, together with an estimate of the annual rate of import substitution, yields a value for total imports; and this, together with exports — which are in turn dependent on relative prices and income abroad — yields the balance-of-payments surplus or deficit on current account; and, as already observed, this latter item affects investment. The supply of labour depends on demographic factors including migration, and on national income per head, the latter variable determining activity rates in the various age groups and also the length of the working week.

One property of a production function when complementarity of factors of production is assumed is that, at a given level of production, only a unique combination of units of capital and of labour is possible. This implies that the propensity to save and the volume of migration together determine whether the capital stock will be too small to employ the whole of the labour force, the supply of labour will be too small to utilize all the capital stock, or full employment and full capacity utilization will be achieved simultaneously. Therefore the propensity to save and the scale and direction of migration are regarded as instruments for achieving the appropriate degree of utilization of the factors of production. In addition, two instruments are available for regulating the balance of payments: the ratio of the Dutch export price index (finally determined by the domestic wage level) to that of competing countries, and the annual rate of import substitution. By manipulating all four of these instruments, full utilization of resources, and also the desired balance-of-payments surplus, can in principle be obtained for various growth rates of gross domestic product. Of course, the four instruments are not equally powerful. The authorities in the Netherlands have possessed the means for exercising considerable control over the wage level (see Chapter V, section 1 (*c*)), and emigration has been encouraged to a certain extent — especially in the immediate postwar period. In contrast, it has been possible to accelerate import substitution only by indirect means such as the inducements to growth offered to the iron and steel industry and other basic industries. The savings ratio has been influenced by, *inter alia*, tax measures.

A systematic review of the scope for maximizing per capita income, using these four instruments to stabilize the degree of utilization of the factors of production and to ensure an adequate balance of payments, could, in principle, have been achieved by the method described at some length in section 3: that is, by solving the model so that the target variables (and those for which boundary conditions had been established) would appear as functions of the instrument variables. However, it has proved virtually impossible to solve the model completely, consisting as it does of mainly exponential functions, with the result that reduced form equations could not be obtained. The ideal systematic procedure had therefore to be replaced by a less sophisticated, trial-and-error method. If targets cannot be expressed as functions of the instruments, the alternative is to establish different hypotheses for the instruments, for the important exogenous variables, and possibly for some target variables, and then to calculate the consequences of these various hypotheses for other variables — particularly for the other target variables and for those variables for which

CHART 1

Scheme of the simplified Netherlands' long-term model, 1956



NOTE. — The arrows indicate the direction of the dependences.

[a] Policy instruments.

boundary conditions have been formulated.[62] In this way alternative sets of estimates for all relevant variables are obtained, signifying the possible effects of changes in the instrument variables. The alternative which most closely matches the policy objectives and boundary conditions can be chosen as a basis for the plan.

Because of the great significance of export expansion for overall economic growth, and of the great difficulties of estimating export growth, the Netherlands long-term plan 1950-1970 contained alternative hypotheses, first, for that part of export demand which is related to foreign income or production and, second, for the ratio of the Dutch export price index to that of competing countries (an instrument variable depending on the wage level). Given exports and the target for the balance-of-payments surplus, it was then possible to determine the admissible level of imports for each set of assumptions. From these import possibilities, together with alternative assumptions about import substitution (the second instrument variable), potential growth rates of national product were deduced; and from the latter were deduced the required capital stock and the demand for labour. In turn, the growth of capital stock indicated the investment required and this, in conjunction with the current surplus on the balance of payments, yielded the required propensity to save (the third instrument variable). A comparison between the demand for and supply of labour showed, for each alternative, the direction in which migration (the fourth instrument variable) needed to be changed in order to achieve the employment target. These calculations were repeated for several alternative hypotheses for the various instruments that could be established within the given boundary conditions, from which the potential growth rates were obtained together with the required instrument variables, for various assumptions about exports. The more sophisticated procedure described in the preceding section would permit the examination of many possible combinations of admissible instruments; the above trial-and-error method can merely analyse certain of these possibilities. Whether a chosen programme is, in fact, the optimum is therefore less certain in the latter than in the former case.

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[62] This means that the direction of some of the arrows in Chart 1 is inverted.

The second part of the Dutch long-term model consists of an input-output model for 11 sectors of the economy which is used for calculating production per sector from sectoral data on final demand. These calculations were carried out in a somewhat more complicated way than described in section 3. Consumer and government expenditures were distributed between sectors by the ordinary technique. Investment, however, was not apportioned between sectors exogenously — as described above; instead, investment in each sector, distributed among producing industries and imports, was made a function of the level of production in these sectors. In this way the input-output analysis produced endogenous estimates of sectoral investment.

Sectoral import and production estimates were used to discover bottlenecks in domestic production and possibilities for import substitution. This analysis led to changes in the production and import coefficients and the revised coefficients were then used in an alternative procedure leading to final estimates of production in the various sectors of the economy.

(b) France

The Fourth Plan, 1962-1965

Two stages can be distinguished in the construction of the French plan. First, a preliminary examination of the consequences for the various sectors of the economy of alternative national growth rates was carried out, by the Commissariat Général du Plan and the Service des Etudes économiques et financières (SEEF), to discover the highest possible growth rate which would not conflict with certain fundamental equilibrium conditions formulated by the Government. Second, final plans for the various sectors of the economy were elaborated on the basis of directives issued by the Government at the conclusion of the first stage. As pointed out in section 3, these directives may be changed in the light of the results obtained during the second stage.

The first stage of plan preparation

It was mainly at the first stage of preparation that a systematic technique, comprising a quantitative model of the economy, was used to assure consistency of the individual estimates. Certain information about this technique is available in several publications, though mainly in a non-mathematical form, since the model itself has not been published.[63] It is frequently observed that the role of mathematical techniques in French economic planning is very modest, that no complete, detailed sectoral model has been drawn up, and that only iterative procedures have been used to explore the consequences of alternative hypotheses: " the French prospective long-term analysis is not based on a general explicit model consisting of a system of simultaneous equations or statements of inequality ".[64] This hesitation to introduce mathematical techniques in plan preparation has been attributed to a belief that models in general, and some of the equations in particular, are too simple or too uncertain to form a satisfactory basis for the kind of planning the French authorities wish to pursue, when the aim is to effect changes in the structure of the economy, using — where necessary — selective instruments of economic policy; and it has also been argued that mathematical techniques are too rigid a tool to provide a basis for a flexible planning procedure.[65]

Nevertheless, the technique used in the earlier stages of preparation of the Fourth Plan resembles that described in the preceding section. " It is a kind of model not mathematically formalized throughout but one which, even though expressed in words, acts as a guide to reasoning and produces a numerical solution by the successive approximation method ".[66] This iterative method, in effect, consists of several partial models which can be easily translated into mathematical form comprising balance equations from the national accounts, an input-output matrix, consumption functions, and certain simple relationships between production and investment.[67] These elements are the same as those constituting the models used in other countries.

The first stage of plan preparation started from the postulation of some preliminary — and apparently flexible — growth rates of gross domestic product, for each of which a set of corresponding sectoral variables was calculated, in order to find out which of the preliminary growth rates would be consistent with the fundamental equilibrium conditions laid down by the Government. The first step at this stage was to determine the rates of increase of the various categories of final demand on the basis of the preliminary growth rates.

Government consumption and investment were considered to be partly a function of national income, but some items of such expenditure were linked to specific factors. Expenditure on education, for example, was linked with the expected growth of population, the prospective rise in the school-leaving age and the extension of further education and vocational training; infrastructure investment was linked with the growth in the volume of traffic, with dwelling construction and with demographic factors. When these estimates were prepared all the government services concerned were consulted. Estimates of government receipts were based on those of income at existing tax rates, which could be adjusted in the event of disequilibrium in the government accounts.

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[63] See, for instance, J. Bénard, " Production et Dépenses Intérieures de la France en 1970 ", *Europe's Future in Figures*, Ed. R. C. Geary, Amsterdam 1962, and F. le Guay, " Planning in France ", *Economic Bulletin for Latin America*, Vol. VIII, No. 1, March 1963.

[64] J. Bénard, *op. cit.*, page 77.

[65] *Ibid.*, page 104.

[66] *Ibid.*, page 78.

[67] *Ibid.*, page 78.

Exports were regarded as a function of expected growth in the rest of the world, and imports were linked to domestic production, separate estimates being made for the franc area and for the rest of the world. Imports from the franc area were estimated mainly by means of demand elasticities; however, allowance was made for a shift to suppliers in the franc area for such important products as petroleum, in accordance with the anticipated growth of productive capacity. Exports to the franc area were equated to imports from, and the amount of French aid to, the same area. Imports from the rest of the world were linked with total French production and with relative price changes (including those expected to result from changes in tariffs); and exports to the rest of the world were linked to the development of income in the western industrialized countries and to changes in relative prices and in trading conditions (in particular the prospects of wider access to the EEC market for French agricultural produce).

Although a precise and consistent estimate of investment should be based on a complete matrix of sectoral marginal capital/output ratios, a much simpler method was used as a first approximation, because the relevant information was lacking. Total investment was estimated on the basis of an overall average capital/output ratio and then distributed between the capital-goods industries and imports by certain empirically estimated indicators. However, in the later stages of plan preparation more precise estimates were made on the basis of the results obtained in the course of the consultations between planners and the private sector.

Total private consumption was estimated as a residual consistency with estimates of disposable incomes — i.e. incomes after taxes and income transfers (see above) — being checked, in the absence of data on income distribution, by means of a value for the overall income elasticity of demand. This total was distributed between branches of industry by the use of a consumption function appropriate to each of the categories of consumer expenditure considered.

From these detailed final demand estimates and an input-output table preliminary estimates of inter-industry deliveries and total output per sector were obtained. The matrix of technical coefficients was derived from an input-output table for 1956, adjusted both for changes in the production structure and for technical progress expected to occur during the plan period. The most important of these modifications were, first, some substitution of coal consumption by other fuels; second, a shift from steel to non-ferrous metals and plastics; and, third, more extensive use of prefabrication in the construction sector.

The data thus obtained permitted a rational choice of the maximum rate of growth of national income which could serve as the basis for more elaborate explorations in the second stage of plan preparation.

The second stage

The first stage, just described, yielded an input-output table for the terminal year of the plan; it also constituted the first step in an iterative procedure in which the estimates thus obtained were elaborated in consultation with representatives of public authorities and of the private sector, working together in the modernization commissions (see also section 2). During these consultations many estimates were improved and/or given in greater detail on the basis of new information acquired; but an effort was made to maintain their consistency by constantly fitting them into the national accounts and the input-output relationships. In this way the planners, the government agencies and representatives of the private sector were able to exchange views; consequently the use of all relevant information in forming a realistic picture of possible future economic development was, to a large extent, guaranteed.

Such detailed information made possible a careful analysis of certain fundamental equilibria, especially that of the labour market and of financial flows. The supply of labour was assumed to be determined by such factors as population growth and activity rates, and demand for labour by the detailed sectoral plans. Since a relatively large proportion of total investment was expected to be financed from public funds, the analysis of the financial equilibrium was more important than in some other countries. After balance on the production account had been obtained, the question arose whether monetary stability could be maintained during the plan period and whether sufficient financial resources would be available for private and public investment plans; and an attempt was made to trace how the savings of various sectors would be channelled to those where they would be needed. Accounts were drawn up showing these flows and the resulting changes in forms of indebtedness,[68] so that the financial structures of the various sectors in the terminal year of the plan could be evaluated.[69]

It is the wide range of consultations with numerous public bodies, representatives of industry, and others mentioned above that constitutes the characteristic feature of the French plan-building process. The significance of this practice for plan-implementation is discussed in Chapter V.

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[68] Namely, changes in the proportions of shares, bonds and medium-term credits in the total.

[69] As the plan was drawn up in constant prices, this analysis could only be partial. A model in variable prices by means of which the implications of various price structures for the level of profits, and thus for the degree of self-financing, can be analysed has since been published (" Le modèle à moyen terme à prix variables S.E.E.F." *Etudes de comptabilité nationale*, No. 3, 1962). This model, however, was only an experimental one and was not used during preparation of the Fourth Plan. In the Fifth Plan this kind of analysis will play an important role (see also Chapter V).

(c) Norway

The 1962-1965 Plan

Until 1960 formal econometric models were not used in the preparation of the Norwegian medium-term plans but use was made of the definitional equations of the national accounts. As far as possible behaviour relations were taken into consideration both in the preparation of sectoral plans by the various planning bodies and in the co-ordination of these plans by the main planning agency. However, these behaviour relations were never explicitly formulated.

For the purpose of preparing the medium-term plan for the years 1962-1965 it was decided to formulate explicitly many more such relations than previously. A model was constructed which directly provided some of the forecasts and which could be used for testing the internal consistency of the various estimates. Attempts were still made, however, to take into consideration a larger number of behaviour relations than was formulated within the model. It should be noted that the model was constructed primarily for the purpose of preparing the annual National Budget; it did not, therefore, include any equation describing the relation between capital formation and productive capacity.

Input-output coefficients covering 129 sectors of production constituted an essential part of the model. Indeed, the detailed inter-industry matrix is perhaps the most remarkable feature of the Norwegian model; it is unlikely that input-output analysis is used so extensively elsewhere. The greater part of private consumption (i.e. endogenous consumption) was derived from a relationship using gross domestic product and population as explanatory variables. Endogenous consumption was then distributed among sectors of production and imports in accordance with the marginal propensity to consume each type of product. The model also contained a set of relationships determining direct final deliveries from each sector of production (and imports) as functions of the deliveries to exports, exogenous consumption, gross investment, and government consumption, specified by commodity classes.[70] In the model all imports were as a rule considered as " non-competitive " — in other words it was assumed that no substitution would take place between Norwegian and foreign commodities. Imports or raw materials etc. were therefore determined directly by input-output coefficients which related imports for the use of the various sectors to the production of these sectors.

Gross investment, exports and public consumption (each category of demand being subdivided into commodity groups) were considered as exogenous variables in relation to the model, since existing knowledge of the relevant relationships was not exact enough to warrant the formulation of explicit relations. So far as can be judged from the text of the plan, a rather simple relationship (outside the scope of the model) between gross domestic product and investment was used for estimating the level of total investment. Moreover, in allocating investments among the various sectors, the planners referred to certain guidelines concerning the desired changes in the structure of the economy, based partly on an evaluation of the natural advantages of the country and of the practicability of effecting these changes in given circumstances. Government expenditure was determined on the basis of a careful evaluation of private, in relation to public, consumption.

In certain sectors output was considered to be independent of demand, but determined instead by productive capacity and supplies of raw materials; in effect, therefore, it was treated as exogenous. These exogenous output estimates called for some adjustment of the original estimates of final demand and of the calculated import figures (part of imports being considered as " competitive ").

Expenditure on some consumers' goods was also estimated exogenously; this applied mainly to housing, a number of social services, motor-cars and television sets. The Norwegian housing market has been distinguished by excess demand, and it was estimated that purchases of cars and television sets would increase at a particularly high rate during the plan period.[71]

The input-output coefficients in the Norwegian model were expressed in 1954 prices, whereas some of the other coefficients, as well as the exogenous estimates and the results of the model, were expressed in 1959 prices. A set of price indices was therefore built into the model in order to bring all figures to the same base. These price indices were derived from national accounts statistics, and involved estimates for about 2,500 items. The task of constructing price indices for deliveries from 129 domestic sectors, and a corresponding classification of imports is, nevertheless, not without problems.

The most important result of the model was the distribution of gross domestic product over 43 sectors of origin, of imports over numerous sectors of import, and of private consumption over 13 commodity groups. As described in section 2 of this chapter, the model was used twice in the planning process. On each occasion, several alternatives representing sets of estimates of exogenous variables could be tested.[72] In the light of the results obtained some of the preliminary estimates were adjusted. Thus, after the first round of calculations in 1961, the estimates of capital formation were revised, since they appeared not to conform to the overall picture provided by the model. Moreover, it should be noted that at the very last stage of plan building some adjustments to the results yielded by the model were introduced to those values where special factors not taken into account in the model were expected to have a certain determinate influence.

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[70] The number of commodity classes specified was as follows: for exports 68, for gross investment 32, and for government consumption 25.

[71] The two latter items were included because some restrictions on the import of motor-cars were relaxed in the autumn of 1960 and regular television broadcasting was started at about the same time, so that a sharp increase in the consumption of these items was expected, irrespective of income developments.

[72] In preparing the medium-term plan, 1962-1965, three alternatives were tested in the first round, and two in the second. See Sevaldson, *op. cit.*

In preparing the 1966-1969 plan it is expected that a new and more comprehensive model will be brought into use which will, however, also primarily serve the purpose of drawing up the annual plans. The new model will contain up-to-date input-output coefficients and provide a rather more extensive specification by sectors than the old one. The most important improvement consists in the introduction of price relations. Thus, endogenous private consumption will be related to personal disposable income, population and relative prices. The new model will yield results in constant as well as current prices, and, in addition to the information provided by the old model, will also provide figures for the balance of payments and for revenue derived from direct and indirect taxation.

(d) Belgium

The 1962-1965 Plan

The calculations for the Belgian plan were made in two stages, the first consisting of a determination of the most important macro-economic magnitudes for the plan period, and the second of a breakdown of these between the various sectors, on the basis of which sectoral outputs and employment levels were calculated. In practice the two stages were not independent of each other, since information yielded by the second stage was used for improving the macro-estimates. In short, the final plan was obtained by an iterative procedure.

An estimate of the growth of the working population was chosen as a starting point for the first stage. This, in conjunction with assumed values for the growth of labour productivity and the degree of unemployment, yielded the rate of growth of national product. From a simple relationship between imports and production, the rate of increase in imports could then be calculated and also — given the target for the balance-of-payments surplus — the requisite volume of exports. The increase in total investment was derived from the growth of national product and a marginal capital/output ratio, and total consumption was obtained as a residual.

At the second stage of plan preparation, total final demand was distributed over a comparatively small number of output sectors. In order to break down consumption, a set of sectoral consumption functions, based on a statistical analysis of consumption data at constant prices, was used; these results were supplemented by information obtained from discussions with representatives of the various sectors. The distribution of demand for investment goods over the producing sectors (machinery and equipment and construction) and for imports was effected by using the base year ratios. Total export requirements were distributed between producing sectors mainly by extrapolation and on the basis of information provided by business circles.

On the basis of final demand by sectors and the input-output table, total output by sectors was determined. All these results, the basic data for which relate to the year 1959, were presented in the form of sectoral accounts. However, the technical coefficients yielded by the input-output table were adjusted, as far as possible, for expected changes in production techniques, information concerning such changes being obtained from the industrial associations.

From the above sectoral outputs, sectoral investments were estimated either by means of technical information supplied by representatives of industry or by observed sectoral capital/output ratios; these estimates were used to correct the estimate of total investment based on the global capital/output ratio. These adjustments led, in turn, to corrections of sectoral outputs, so that by means of this iterative procedure investment was estimated endogenously whilst avoiding the complex calculations which would have been required if complete models had been used.

(e) Sweden

The 1961-1965 Plan

The methods used in Sweden are a rather complicated mixture of statistical and econometric analysis on the one hand and consultations with " private firms and their associations, public institutions and specialized research units "[73] on the other. To a great extent the Swedish plan is based on plans drawn up by private firms and trade associations in the various sectors; but the Planning Commission has sought to ensure that the estimates of future development are consistent, in the sense that they fit into the system of technological and economic relationships expressing the interdependences existing in the economy,[74] recognizing that consistency would not be guaranteed if the plan were a mere combination of the data provided by the private and public sectors. The Planning Commission therefore strove to achieve consistency in the 1961-1965 Plan by applying in a rather loose way partial models, sometimes only single equations, without formulating a complete quantitative model.[75]

For each sector, rather extensive analyses were made of the relationships between inputs of production factors and output, in order to check the plausibility of the estimates of demand for labour and of investment. Furthermore, as in all the models described above, macro-economic and sectoral estimates of consumer expenditure were based on an extensive econometric analysis. Finally, quantitative relationships were worked out, linking output and demand for imports, and inter-industry relationships were examined by means of input-output analysis. However, it should be stressed, when making a comparison with the techniques used in other countries, that, in general, the relationships were used by the Planning Commission only to check the consistency of the estimates for the endogenous variables provided by individuals and organizations in the private sector and by government agencies, and not for drawing up plans independently of this information.

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[73] I. Svennilson & R. Beckman, " Long-term Planning in Sweden ", *Skandinaviska Banken, Quarterly Review*, No. 3, 1962.

[74] *The Swedish Economy 1961-1965 ; Report of the 1959 Long-term Planning Commission*, Stockholm, 1963, page 11.

[75] The somewhat disconnected presentation in the Swedish plan document makes it difficult to obtain a clear-cut picture of the way in which the interdependences are dealt with.

Some illustrations can be given. The macro-economic estimate of production (value added) was obtained as the sum of sectoral estimates. Among these, the volume of agricultural production was estimated by the Agricultural Marketing Board, the estimates for industrial production were obtained from an inquiry, among a large number of industrial enterprises, carried out by the Industrial Institute for Economic Research, and the demand for energy was worked out by the power producers' joint organization. By setting up balances of supply and demand for several industrial products, the Planning Commission then compared the production estimates for the various branches with the estimated development of demand. For this purpose, consumption estimates were derived from a study of the Industrial Institute for Economic Research.[76] In this study, consumers' expenditure was analysed by means of econometric methods which yielded a set of consumption functions that could be used for forecasting consumption in 1965; these estimates were revised by the Planning Commission (using rather simple methods) in the light of changes since 1957. Estimates of investment could have been based on the individual investment plans which were available, but this was not carried out since these plans did not stand up to the consistency tests referred to below; the Planning Commission made its own estimates on the basis of some simple production functions. Public consumption forecasts were based on information provided by public authorities. Forecasts of exports were obtained from the export plans of private firms; and the estimates thus obtained were discussed by the Commission in the light of expected developments in world trade. Finally, intermediate demand was estimated by means of input-output analysis.

Estimates of the demand for labour were made, corresponding to those for production and based on similar sources of information. An analysis of the consequences for the labour market of the expected development of demand for labour and of investment (given that the supply of labour is primarily determined by demographic factors) showed that the entrepreneurial plans overestimated the growth in labour resources and pointed to the desirability of moderating the demand for labour while fixing a higher investment target during the plan period. The Planning Commission therefore made new employment and investment estimates, and discussed the policies needed to raise investment above the levels currently intended by the private sector. The consistency of these estimates with the production figures was examined by using various types of production functions. For industry, the implications of these estimates for the development of average and marginal capital/output ratios during the plan period were analysed and evaluated. In addition, the possibility of using the estimates in a Cobb-Douglas production function was examined. Finally, the savings ratio corresponding to the level of investment proposed was checked for consistency against the expected future development of consumption and income.

(f) Greece

The 1960-1969 Perspective and 1960-1964 Five-year Development Plan, and their 1962-1971 and 1962-1966 Revisions[77]

Plan preparation in Greece has taken place in two stages. The first comprised the preparation of a ten-year perspective plan (first for 1960-1969, later revised for 1962-1971) while, in the second stage, the plan proper (1960-1964 or 1962-1966) was elaborated. The two stages were not independent and estimates worked out for the second stage were used to underpin, and to adjust, the targets set in the first stage. Estimates of likely future economic developments and the assessment of feasible rates and patterns of economic growth were based on detailed studies of postwar developments, particularly during the period 1955-1959. The availability of a series of national accounts going back to 1948 has been of considerable importance in this connexion.

Initial projections for the ten-year perspective plan were based on a population forecast and an estimate of the labour force at the end of the period. These were followed by projections of production, income and employment, for which a breakdown was first made between agriculture, industry and services. Agricultural output was projected on a product-by-product basis. Estimates were made of areas under cultivation and of yields, incorporating the effects of planned structural changes (such as new land-use patterns) as well as of improvements of agricultural techniques. Industrial production (defined broadly to include mining, utilities and construction) was also projected in some detail. The possible growth of mining and quarrying output (12 products were distinguished) was checked with export potentialities for the minerals concerned or their derivatives; the need to expand domestic processing of these products was also taken into account. In manufacturing industry, 11 branches were distinguished, past rates of productivity growth, corrected for any known or expected changes, combined with estimates of employment being used to make projections of production in three branches. The growth of government services was forecast independently and that of private and domestic services was tied to the population growth.

Incremental capital/output ratios for industrial branches — derived from past experience corrected for anticipated changes, from engineering studies, or from experience abroad — were applied to the production estimates to give first estimates of investment requirements. Policy measures to increase the rate of growth of labour productivity and to reduce the capital/output ratios were studied and taken into account in making the final estimates. Moreover, investment in major new projects, and expected returns in the plan period, could be separately estimated and inserted in the totals. Estimates of public capital expenditure were analysed to ensure conformity between the necessary infrastructure and other complementary investments, on the one hand, and estimated directly productive outlays, on the other.

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[76] *Den privata konsumtionen i Sverige 1931-65*, Industriens Utredningsinstitut, Stockholm, 1957.

[77] Ministry of Co-ordination, *Five-year programme for the Economic Development of Greece 1960-1964*, Athens, April 1960; *Memorandum on the Greek Economic Development Programme*, Athens, 1962.

On the basis of the estimate of total income, global estimates of private and public consumption at the end of the period were made, which took account of a policy aiming at restraining the growth of luxury consumption and of government current spending. Subsequently, after assessing the potential availability of external finance, an initial comparison of national expenditure and total available resources could be made. The national accounts provided the balance equations and these were used to achieve consistency between the estimates, which were adjusted to each other by successive iterations. However, estimates of inter-industry transactions were not co-ordinated, although the increases in required primary inputs — labour, capital and imports — were made explicit.

Since the model used in Greece is incomplete, a large degree of flexibility is preserved. Technical and behavioural equations are in many cases not formalized, or are of very simple form, so that alternative assumptions can be introduced, implying that the system is rather loose. however, the use of the national accounts as a basic framework ensures a certain degree of consistency.

The second stage of the preparation of the five-year plan within the framework of the ten-year perspective started with a detailed projection of consumers' demand. Private consumption during the plan period was broken down by product class (14 classes being distinguished) and, together with the estimates for government expenditure and total investment and with a projection of exports by commodity class, this was compared with the production anticipated from the various branches of industry. From this, total import requirements (by product class) were derived, and the balance of payments estimated.

While the ten-year perspective gives most weight to the pattern of production and investment, the five-year plan gives more emphasis to the financing of the development effort and, therefore, presents more details for savings, public finance and the foreign balance. A projection of private savings was made, in connexion with the policies proposed for stimulating savings and for establishing financing institutions to channel them towards the appropriate sectors, as well as a careful analysis of anticipated government revenues and expenditures and an assessment of their contribution to the financing of the investment programme. Finally, the feasibility of the planned development of imports, exports and the balance of payments over the plan period were closely examined.

(g) Turkey

The Turkish Five-year Plan, 1963-1967

The techniques used in Turkey so far constitute a first step towards the use of those developed in the countries with longer plan-building experience, discussed above. Preliminary estimates were obtained from a model that consisted of a macro-economic part and a fifteen-sector input-output model. In addition, sectoral commissions were established which carried out studies for individual sectors. The results obtained from these two approaches were then reconciled.

The macro-economic model is very simple. It consists mainly of balance equations derived from the national accounts, supplemented by some simple equations expressing assumed relationships between investment, public expenditure, imports of raw materials and taxes on the one hand and gross national income on the other. Consumption expenditure is derived as a residual item. Export estimates were based on separate sector studies in which the development of foreign demand, among other factors, was analysed. From this set of equations it was possible to calculate the consequences for these variables of the 7 per cent rate of growth of gross national product which was set as a policy target.

The input-output table was constructed for 1959 on the basis of information provided by the sector studies and the Central Statistical Office. For the sectoral breakdown of consumers' expenditure a set of elasticity coefficients with respect to disposable income per capita, based on studies for individual products, was used. The estimated total investment was distributed between the relevant domestic sectors (construction and machinery) and imports on the assumption of a constant ratio of imports to total investment. From the outset export estimates were made on a sectoral basis. By means of the usual mathematical procedures sectoral outputs were calculated from sectoral final demands.

In the sectoral studies, made independently from the calculations based on the above model, various techniques were used. In some cases simple trend extrapolations, and in others more complicated relationships between the variables concerned, were applied.

(h) Short-term Models

As stated in section 3, it cannot be assumed in any of these economies that once the necessary long-term policy measures have been taken the long-term objectives will automatically be achieved; for several reasons, it is necessary to guide the economy towards these long-term objectives by means of supplementary short-term measures. Examination of the short-term effects of the long-term policies must be undertaken at regular intervals to discover whether any unforeseen developments threaten the long-term requirements and, if so, short-term measures must be designed to counteract these tendencies. Short-term measures may be required to offset the impact of unexpected changes in the non-controlled exogenous variables in the plan model: the necessity for short-term intervention is also likely to arise because of the absence of sufficiently accurate knowledge of the interdependences in the economy.[78]

For short-term analyses that are intended to provide a basis for adjustments to policies, detailed and up-to-date national accounts, giving a clear picture of recent developments, and forecasts in the framework of the national budget are required. Despite the fact that regular reviews of recent developments are now undertaken in several countries, only in France, Norway, Sweden and the

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[78] This lack of knowledge is reflected in the error terms of the equations described in section 3 which, for purposes of forecasting and policy-making, are usually assumed to be zero — an assumption which, generally, will not hold.

TABLE 1

The effects of some government measures on policy targets in the Netherlands[a]

Influence on → / Influence of ↓	Unit	Year	*Percentage change in:* Un-employment ratio	*Percentage change in:* Fixed investment in enterprises	*Percentage change in:* Real national income	Balance-of-payments surplus *(millions of guilders)*
Decrease in indirect taxes . . .	100 million guilders (about 2.7 per cent of such tax revenue)	1st	−0.06	+0.2	+0.2	−30
		2nd	−0.09	+0.4	+0.3	−50
Increase in wages	1 per cent of wage bill (about 175 million guilders)	1st	—	−0.2	+0.2	−100
		2nd	+0.012	−0.4	+0.1	−60
Decrease in taxes on wage income	100 million guilders (about 8 per cent of such tax revenue)	1st	−0.03	+0.2	+0.1	−70
		2nd	−0.05	−0.4	+0.1	−50
Decrease in taxes on other income	100 million guilders (about 3 per cent of such tax revenue)	1st	—	—	—	−10
		2nd	−0.03	+0.6	—	−40
Increase in government expenditure	100 million guilders (about 2 per cent of government consumption)	1st	−0.05	+0.2	+0.2	−80
		2nd	−0.06	+0.4	+0.2	−60

Source: Advies inzake het in 1959 en 1960 te voeren Sociaal-Economisch Beleid (Publikaties van de Sociaal-Economische Raad, 1959, No. 2, The Hague, April 1959), Table 8.

NOTE. — For simplicity, all absolute figures — except those on the balance of payments — in the original table have been converted into percentages.

[a] Because of the dynamic character of the model, the policy measures have not only an in influence the year in which they are taken (the first year) but also in the subsequent years. In the table, only the first- and second-year effects (non-cumulated) are shown.

Netherlands (among the countries under review in this section) has the practice of drawing up National Budgets existed for any length of time. This study can provide neither a review of national accounting techniques nor a complete description of the short-term models used in these countries; but certain observations on short-term models and on the techniques used for formulating annual plans and for analysing the short-term effects of policy measures are relevant.

In principle these techniques do not differ from those used for long-term planning. In both cases, a system of simultaneous equations describing relationships between the relevant economic variables is needed to calculate the values of the instrument variables that will yield the given targets. The methods used for designing the appropriate short-term policies are the same as those used for longer-term policies, though, in fact, the more systematic approach of the two methods described in section 3 has been used more often for the former than for the latter — probably because macro-economic short-term models can be solved more easily than can medium-term models.[79]

However, in general, short-term models differ from the medium-term ones with respect both to the content of the equations and to the magnitude of the coefficients. This contrast is particularly a feature of the behaviour equations. Since in short-term models these have to describe the reactions of consumers, entrepreneurs and workers during the various stages of the business cycle, they need to be more refined as to economic content and to have a more subtle dynamic structure than those in medium-term models. Thus, for example, a short-term consumption function in which consumers' expenditure was related to national income only by means of a single income elasticity of demand would not give an adequate description of short-term fluctuations in the former variable. In the Netherlands short-term model,[80] variables are introduced to take into account the consequences of short-term fluctuations in the distribution of disposable income between wage and other incomes and the consequences of price changes and of changes in liquidities; moreover, greater attention is given to the timing of the various influences. The French short-term model, used to set up the National Budget, is similarly refined by an attempt to achieve a more realistic description of consumers' behaviour — by assuming in the first instance that consumers tend to keep the volume of their expenditure constant and then that the remainder of their income (positive or negative) is divided in some way between consumption and savings.[81]

Fairly elaborate price equations are employed in the Netherlands short-term model — in contrast to the long-term model — since price fluctuations are very relevant in short-term analysis. The consumers' price equation in the 1961 model, in particular, took into account such considerations as changes in labour costs and fluctuations in the short-term interest rate, rates of indirect taxes and the degree of utilization of capacity. Furthermore, the dynamic structure of this equation appears to be very complex.

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[79] For example, short-term models can often be linearized more easily than medium-term models.

[80] See *Central Economic Plan, 1961*, The Hague 1961.

[81] See " Réponses à quelques questions sur les budgets économiques ", *Etudes de Comptabilité Nationale*, No. 2, 1961, p. 20.

As already mentioned in section 3, one of the important differences between medium- and short-term models is to be found in the treatment of capital accumulation. It has been noted above that medium-term models normally have no separate demand equation for capital goods since, if it is assumed that demand is such as to guarantee full utilization of productive resources, while maintaining external equilibrium, capital formation will be equal to savings. The corollary of this is that output is exclusively determined by the production function, and that inputs are assumed to be equal to the supply of the factors of production.[82] In contrast, the assumption of full utilization of productive capacity cannot be made in a short-term model, where the analysis of the degree of utilization is one of the main tasks. Instead, investment is determined by a separate equation which features the considerations that determine entrepreneurial behaviour in the trade cycle. And as a corollary to this case, production is not determined by a production function but, in the first instance, by the various categories of demand (less imports), given that productive capacity is fixed in the short run.

Independently of this estimate of output from the side of demand, estimates of potential output are frequently made from the supply side in order to analyse the fundamental equilibrium conditions for the production account. In Sweden, for instance, changes in potential output are estimated from expected changes in productivity and the labour force. By comparing potential output, derived in this way, with total output as dictated by demand factors, an impression is gained of the gap — inflationary or deflationary — between supply and demand, which frequently indicates the direction in which economic policy should change. This kind of analysis, however, is only relevant if the degree of utilization of capacity may be expected to remain constant. This condition will often not be fulfilled. Moreover, if substitution between factors is possible, potential output should not be calculated from changes in the labour force only, but investment should be taken into account as well.[83]

In France, also, production estimates contained in the annual National Budget (based partly on a quantitative model and partly on information provided by government agencies and business circles) are derived independently from the demand and the supply sides. The attempt to reconcile these estimates may lead to a reconsideration of policies.

As already noted, extensive use is made in the Netherlands [84] of the evaluation of alternative policies, should the type of analysis described above suggest that the developments which would result from the retention of policy measures not be acceptable. Attempts have been made to use the systematic approach based on the reduced-form equations described in section 3 which, as already noted, can hardly be applied to longer-term analyses. Since short-term models can usually be easily linearized, an explicit solution of the model is possible, with the target variables being obtained as linear functions of the instruments — thus permitting the calculation of the impact of changes in the instruments on the target variables. Usually, this approach requires, firstly, the construction of a table which sets out the impacts on the main targets. Such a table is given in a report of the Netherlands Social Economic Council dealing with the possibility of improving the balance of the Government's economic policy (see Table 1).

It can be seen from the first row of the table that, according to the model, a decrease in indirect taxes of 100 million guilders would reduce unemployment in the first year by 0.06 per cent and in the second year by another 0.09 per cent of the total labour force; the same measure would reduce the balance-of-payments surplus by 30 million and 50 million guilders in the first and second years respectively. Clearly such information is invaluable for the design of a policy programme. For example if, in certain circumstances, an improvement in the balance of payments of, say, 300 million guilders is deemed necessary, various combinations of measures can be found which would achieve this result. One such combination is a decrease in the wage level of 1 per cent and a fall in government expenditure of 100 million guilders. At the same time, however, these measures would raise unemployment by 0.2 per cent of the labour force and, if this is undesirable, another combination of measures (including, if necessary, more instruments) could probably be found which fits the targets better. If all the targets are specified quantitatively, the procedure described in section 3 (page 13 *et seq.*) can be applied, though subject to the qualifications mentioned there.

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[82] Or, in the case of complementarity, are determined by the supply of the factor which is most scarce.

[83] As mentioned above, attempts are being made to use in medium-term models production functions based on substitution. This is also true for short-term analysis.

[84] It is very likely that similar methods are used in France, though no examples have been published. In the article " Réponses à quelques questions sur les budgets économiques " (Answers to some questions on economic budgets), *Etudes de Comptabilité Nationale*, No. 2, 1961, it is stated, page 7, that " one procedure that may often be adopted to avoid trial-and-error methods is to use models in which some of the Government's targets (such as the level of the balance-of-payments surplus or deficit) appear as data and which make it possible to determine the scope of the measures to be taken, once their nature has been decided ".

CHAPTER IV

METHODS OF PLAN CONSTRUCTION IN EASTERN EUROPE AND THE SOVIET UNION

1. GENERAL CHARACTERISTICS OF PLANNING IN CENTRALLY PLANNED ECONOMIES

Although the diverse methods of plan construction used in western Europe were considered separately for each country in Chapter III, those employed in the centrally planned economies of eastern Europe[1] are treated in this chapter as though they formed part of a uniform system. True, the planning methods used in these countries are not identical: there have been differences since the introduction of planning, and these differences have become more pronounced in the past decade as attempts have been made both to adapt planning more closely to the conditions peculiar to each country and to evolve more flexible techniques within each country. Nonetheless, the basic similarity continues to be more marked in eastern than in western Europe — particularly if formal techniques of plan-building are distinguished from the more general procedures which surround them.

This basic similarity is due to institutional and historical factors. In eastern European countries virtually all means of production outside agriculture are state property, and collectively owned means of production in agriculture are also subject to far-reaching state control. Hence, the central authority which approves the plan has legal rights of disposal over the preponderant share of national resources. In the eastern European countries (but not in Yugoslavia — see Chapter VII), the central state authority functions both as owner and as entrepreneur: consequently, planning is the accepted means of economic management, and methods of direct planning predominate.

The methods of direct central planning practised throughout eastern Europe owe much to the economic, social and political conditions in which the process of planned development began and evolved in the Soviet Union. These economic and social conditions were, by and large, typical of a country at a relatively early stage of industrialization: a generally undiversified structure of the economy; a low level of per capita income; unemployment and disguised unemployment; scarcity of capital and skill; a backward social structure characterized by deep discrepancies between social classes and regions; and the absence of a sufficiently developed market mechanism with a price structure offering guidelines for rational decision-making.

Besides these general characteristics, there was the considerable geographical and economic size of the Soviet economy — which explains the relative lack of interest among Soviet planners in foreign trade problems and their continuing pre-occupation with regional development. Among the political factors which strongly influenced the forms of management of the Soviet economy in the late 1920s, when central planning was introduced, were the isolation of the country in a hostile environment, and its strongly centralized political leadership.

The primary objectives of eastern European planning centre on rapid industrial growth and radical structural change (see also Chapter II, section 3). For their attainment, the need for active planning is evident; and the means of implementing such planning have had to be devised. The procedures used for transmitting legally binding central decisions to all economic agents supersede the market mechanism. Planning of this kind has little in common with forecasting the development of an economy over which the planner has little control, since it is mainly concerned with the creation of new economic conditions, which are to a great extent actively determined by the planning authorities. The specific targets formulated in the plans are obligatory, particularly in the state sector. This essentially active nature of planning determines the methods of plan-building and differentiates them from those of forecasting, even when recourse is had to indirect policy instruments. Many of the parameters taken as given in planning in market economies become important policy variables in central planning, and distinctive methods of economic calculation have been developed to facilitate economic decision-making. Incentives to competition and for changes of productive capacities and the pattern of output, the allocation of investment funds and co-ordination of the investments of various enterprises, the balancing of supply and demand, the specialization of production, etc. are all functions carried out as part of the planning process and not by means of the market mechanism, whose role is auxiliary and limited.

In eastern Europe planning is a method of current economic management, as well as the basis for measuring and controlling the level of economic activity. Consequently, the separate treatment in this study of plan construction and plan implementation in a centrally planned system is somewhat artificial, since many of the institutions and procedures described serve a dual purpose, both in plan building and plan implementation. However, the two sides of planning are conceptually quite distinct, and for the sake of the advantages for exposition this chapter deals only with the former aspect of planning, although some repetition between it and Chapter VI is the inevitable result.

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[1] The expression ‘ eastern Europe ’ comprises the Soviet Union, except when that country is referred to explicitly.

As mentioned earlier, the planning procedures evolved in the Soviet Union during the interwar period were adopted, with little modification, in all the countries of eastern Europe. In consequence, little account was taken in the early postwar years of the different levels of economic development reached by various eastern European countries prior to the introduction of planning, and of the widely differing importance of foreign trade for their economies. Notwithstanding the numerous changes introduced, or contemplated, since then, the forms of planning used in eastern Europe are still sufficiently affected by the Soviet model to exhibit a number of common characteristics. And these characteristics are further reinforced by the identity of the ultimate economic, social and political objectives pursued by all the governments of the region. In the following sections no detailed description of the planning techniques applied in each country, and their gradual transformation over the years, is attempted. Attention is centred on those major aspects of the planning process which are common throughout the region.

As in market economies, the objectives of economic policy and the relative priority attached to them in the centrally planned economies are a matter of political choice. From this point of departure, the process of planning begins with the aim of ensuring internal consistency among these objectives, quantified as targets, as well as between targets and means. Certain " optimization criteria " are then used for the selection of the most efficient means of attaining fixed targets.[2]

The choices made at the various levels of plan implementation (called, for the sake of brevity, the ' executive ' level, the most important being that of the enterprise management) are very largely determined by the decisions taken at the centre, but these in turn are strongly influenced by planning at the executive level. Central planning is not limited to the elaboration of the national plan, but consists also — and perhaps mainly, in the case of short-term plans — in the co-ordination of plan proposals elaborated at the enterprise or sector level. For this reason more attention is paid in the centrally planned economies to problems of organization and co-ordination of the planning procedures at all levels throughout the country than to problems of independent model-building at the centre.

The elaboration of plans in centrally planned economies is a highly intricate and lengthy process which is carried out simultaneously at various levels and continuously over time. Thus, planning proceeds at various mutually inter-connected administrative levels (central-sectoral or regional-enterprise). The plan goes through a number of successive iterations which aim at securing consistency between the centre and executive levels. The main features of this procedure, the institutions through which it takes place, and the various time-spans by means of which the continuity of planning over time is, at least in principle, assured are described in section 2.

Historically, eastern European planning — and particularly medium- and long-term programming — has been almost entirely confined to a few priority sectors (energy, metallurgy, engineering and, more recently, chemicals). These sectoral plans were based on an assessment of production possibilities in the light of politically determined priorities and were generally not integrated in a global model. An approach developed in recent years consists of drawing up global models as a means of designing an overall strategy of development, which, in turn, serves as a basis for working out long-range or " perspective " programmes for various sectors. This approach is described in section 3, and is followed by an account, in section 4, of target-setting in the medium-term plan, which is mainly concerned with the formulation by the central planner of a set of legally binding directives for various sectors of the economy. Section 5 deals with the balance method of ensuring consistency among targets; and this is followed, in sections 6 and 7, by a review of the ' optimization criteria ' used in planning investment and foreign trade, respectively.

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[2] Cf. *Planirovanie narodnogo khozyaistva SSSR*, Moscow 1963, p. 55.

2. PLANNING PROCEDURES

(a) The logic of planning

Political and social preferences determine the policy-makers' choice of a *desired* set of goals. But existing and future capacities set practical limits to the desired pace and pattern of development. It is in the planning process that what is desired is confronted with what is possible; the implications of several alternative sets of possible reconciliations are explored, and finally one set is chosen and adopted as a plan document having the force of law.

In any plan-building process, no matter what the administrative level, the following elements can be distinguished:

(i) *Certain objectives have to be achieved.* At the central level these objectives are determined either by the political and social preferences of the policy-maker, or, at the executive level, by economic directives translated into targets handed down from a higher administrative level (plan directives).

(ii) *Certain limitations have to be observed.* These include, for example, disposable economic resources (manpower, materials, productive capacities, investment funds, etc.), the maximum scope for expanding output of given products, branches or sectors (because of technical capacities or demand limitations), foreign trade limitations, etc.

(iii) *The most efficient solution has to be chosen.* Usually several possible alternative combinations exist for attaining the desired goals; within this field of manoeuvre there is the problem of selecting the best of various alternative feasible solutions.

In other words in any plan-building process[3] there are problems of:

- target setting
- testing for consistency
- efficiency and optimization.

The process of setting targets and of assuring their internal consistency constitutes the essence of planning at any level. The first stage is that of strategy formulation, when political and social preferences are translated into quantitative policy objectives (in targets) and main proportions of development. The selection of a programme defining one of several possible sets of goals is, however, basically a value judgement to which economic analysis can make only the limited contribution of an assessment of global costs and of all the economic consequences likely to flow from any given programme. Throughout eastern Europe choices between possible levels of current and future consumption, different rates of growth and the desired length of the working day, standards of living and the degree of foreign trade dependence are all policy issues reserved for political and social judgements, and therefore excluded from the optimization calculus. Nor, indeed, are there any economic tools available for comparing and evaluating different goals: the field of efficiency calculus is limited to assessing alternative means for achieving a given set of goals.[4] In practice, calculations of efficiency are used mainly in investment analysis — where there is a choice between various techniques of production for reaching a definite set of final products, and in foreign trade analysis — where the choice between various sectors is very large and the structure of final production is much less important than foreign exchange earnings.

Once the general strategy of development has been formulated a sectoral analysis takes place as global aims are transformed into specific policy objectives, and these in turn into detailed targets. Targets must be checked from the point of view of their internal consistency, and balances become more and more detailed. The conversion of general policy objectives at the central level into specific targets for the diverse executive levels creates a huge problem of disaggregation. In principle, this disaggregation should yield a detailed programme which should be both internally consistent, within the constraints set by limited resources, and close to the optimum. The scope of central planning is too great for it to be possible to operate solely with macro-economic models elaborated and solved at the central level with the aid of electronic computers. The executive levels require detailed directives. But the vast number of commodities, possible techniques of production, limits set by productive capacities, material inputs, unit costs, foreign supply and demand limitations, changes of prices and costs make the resolution of so many problems practically intractable at the central level. On the other hand, exclusive reliance on aggregate entails a planning procedure which assumes a fixed structure of output within particular branches of production. Inevitably, this drastically reduces the degree of freedom; and clearly a loss in the degree of freedom involves losses in capacity utilization.

In short, there seems to be no direct way of proceeding from general economic considerations, based on analysis of development relationships between aggregated variables, to disaggregation, from which direct and optimal solutions for lower executive levels could be drawn.[5] This implies that central planning cannot rely solely on macro-economic analysis of aggregated variables. It postulates a transition from macro- to micro-magnitudes, from aggregated variables to concrete techno-economic directives in the various sectors and enterprises, by means of a two-way iterative process of successive approximation. This most difficult requirement has not yet been solved satisfactorily in any planning system. In so far as the scope of planning permits specific problems to be dealt with at the centre, consistency and optimization tests can be carried out in the course of projection at that level. Once the scale of disaggregation surpasses the capacity of the central planning authority, recourse must be had to an iterative process of "planning and counter-planning".[6] This iterative process consists of co-operation between the central planning authority, which formulates plan directives, and the various executive levels, which check the consistency of these plan directives that they receive by means of balancing methods (see section 5 below) and then formulate their counter-proposals. This series of exchanges finally results in the confirmation by the central planning authority of proposals put forward at the executive levels, the whole forming a programme which is feasible.[7] The test of optimization is met by the use of diverse efficiency calculations, based on various methods of analysis, some of which use accounting prices for capital, foreign currency and basic raw materials (see sections 6 and 7 below). These methods help to uncover potential reserves and lead to an improvement of the original plan directives.

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The procedure described in broad outline above is rational and efficient for an economy embarking on a programme of speedy development from an initial level of economic backwardness. The formulation of an adequate strategy of development is relatively straightforward in an undiversified economy, where the number of options is rather limited. Nor does the translation of the strategy into a set of plan directives, ranked by priority, present insuperable difficulties. A relatively small number of investment projects can be directly planned at the central level satisfactorily and with due regard to capital scarcity as the main limiting factor. Consistency can be assured by means of balancing methods. Indeed, because of the basic structural changes taking place in the course of rapid growth, direct methods of planning facilitate rational decision-taking which anticipates these dynamic changes, whereas going prices are usually of little use for guiding investment decisions. All the basic factors are subject to direct calculation and this makes possible an allocation of resources which matches the central planning authority's preferences and, therefore, assures the concentration of all disposable resources on the salient paths to speedy development.

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[3] These planning factors resemble the general logic of the programming techniques (as there is an objective function with internal consistency conditions and various types of constraints). Nevertheless, practical methods applied are not formalized; they are more simple and — at the same time — more elastic.

[4] This is so because in a closed centrally planned economy where only one method of achieving a given final product was available calculations of efficiency would be out of place. For with a given rate of growth of national income, a given relation between unproductive investment and consumption, and a given structure of consumption, the volume of industrial output would be fully determined by the technical coefficients of production. (Cf. M. Kalecki: "An outline of a Method of Constructing a Perspective Plan", *Essays on Planning and Economic Development*, Warsaw 1963.)

[5] Cf. J. Pajestka, "System Informacji Planistycznej", *Ekonomista*, No. 2, 1964.

[6] J. Kornai, "Mathematical Programming of Long-Term Plans in Hungary", Paper presented to the Conference on Activity Analysis, Paris, July 1963.

[7] *Planirovanie narodnogo khozyaistva SSSR, loc. cit.*

However, the more diversified the economy becomes, and the more balanced its growth, the more importance must be attached to problems of efficiency. As the strategy becomes increasingly complex, the scope for manoeuvring grows, the flow of indispensable information increases, decisions taken at the executive levels grow in importance and increasingly influence the decisions taken at the centre. In the earlier stages the most important problem is the choice of an appropriate strategy at the central level. In a mature economy the most important problem to be solved is how to reach global optimization through partial optimization.[8]

(b) The institutions and sequence of plan formulation

For the reasons mentioned earlier, the separate treatment of the plan-formulating and plan-implementing functions of economic institutions in eastern Europe introduces a distinction which, although useful for purposes of exposition, tends to exaggerate the distance between the two. In Chapter VI, section 2, the hierarchy and plan-implementation functions of these institutions are described in some detail: in what follows, therefore, only the principal plan-formulating agencies, and the links among them, are described. Abstracting from the detailed interrelationships and degree of subordination among them, there are basically three institutional chains of plan formulation: the party organization; the government system (both central and local); and the agencies whose *raison d'être* is exclusively the formulation and exercise of control over the implementing of plans. The functions of the party organization and membership are of the utmost importance at all stages of planning; indeed, it is largely because of its ubiquitous influence that no analysis of the party organization's planning functions is attempted here. Suffice it to say that the operation of the eastern European system of economic planning would be inconceivable without a strongly centralized (according to the principle of ' democratic centralism ') and unitary form of party organization.[9]

Constitutional responsibility for the formulation of plans (as well as for their enactment as laws, their fulfilment, and for control of their implementation) rests with the central government (e.g. the Council of Ministers in the Soviet Union), which submits the draft plan document to parliament (e.g. the Supreme Soviet) for ratification. The same procedure is followed at the various regional and local levels of administration, subject to the guidance and supervision of the central political authorities. For the Soviet Union, for example, in the Union Republics, autonomous republics, regions, districts and localities the executive branch of government draws up draft plans which are then submitted to the corresponding legislative branch for consideration and adoption. The day-to-day performance of these planning responsibilities is, however, entrusted to specialized planning agencies subordinate to each of the governmental echelons just mentioned. There are three groups of such agencies, classified according to the functions which they carry out.

The first group consists of the state planning agencies directly attached to one or other of the levels of administration described above. Thus, in the Soviet Union, there are the State Planning Commission *(Gosplan)* and the Council of the National Economy (*Sovnarkhoz* USSR) at the centre, responsible to the Council of Ministers of the Union. At each of the lower administrative levels, from republics to localities, corresponding planning agencies are attached to the executive branch.[10] The principal functions of this group of agencies consist in ensuring, both in their sectoral and regional planning, the realization of the centralized planning policy laid down by the government.

The second group is distinguished from the first by having advisory rather than operational responsibilities. It comprises the planning departments of all-Union and

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[8] This chapter does not set out to review the theoretical debate now taking place in eastern Europe concerning the planning methodology appropriate for solving this fundamental problem. (Cf. V. S. Nemchinov: *Models for national economic planning*, Paper presented to the United Nations Seminar on Planning Techniques for Participants from Developing Countries, Moscow, July 1964.) However, judging by the new planning procedures already introduced, the following general tendencies can be distinguished:

— further improvement of methods of direct planning by means of the application of new techniques of data-processing throughout the economic apparatus of the country, so as to enable smooth and fast aggregation and co-ordination and successive repetition of the planning cycle.

— the use of accounting (shadow) prices for capital, foreign currency and basic raw materials, as central parameters of optimization, allowing for decentralization of choices on executive levels in conformity with the preferences of the central planner. This leads to the introduction of some elements of indirect planning, but without reliance on the market mechanism. The mechanism of competition is here simulated within the framework of planning procedures.

— improvement of the structure of existing prices by means of eliminating existing distortions and increasing the role of material incentives, thus providing a basis for a decentralization of decision-making and the introduction of indirect planning in some lines of economic activity.

[9] Such an analysis would belong, in any case, more to an essay in political science than to an economic study. It may be noted, however, that the ' directives ' for all the Soviet medium-term plans have been issued by the Conferences of the CPSU (Communist Party of the Soviet Union) prior to their adoption by governmental bodies. The Soviet Twenty-year Economic Development Programme, 1961-1980 (see the SURVEY for 1961, Part 1, Chapter II, pp. 49, *et seq.*), is a Party manifesto, not an official government document.

[10] The Soviet Union also has, in this group, an intermediate level — the councils for planning and co-ordination in large economic regions — which has no administrative counterpart (cf. also Chapter VI, section 2, and Charts 1 to 3 of that chapter).

Republican ministries and analogous institutions, as well as the planning divisions of the *sovnarkhozy*, sectoral or branch councils *(glavki)*, for the economy as a whole and of local government, and the planning departments of branch associations. The third group of planning agencies is made up of the planning divisions of enterprises, of production units and of state farms, which both formulate, and supervise the implementation of, plans for the separate productive units to which they are attached.

Notwithstanding the numerous changes that have been introduced over the years — and particularly in recent years — in the attribution of functions within and among these three groups of planning agencies, the state planning commission (*Gosplan* or its equivalent) has invariably been the fulcrum of the planning hierarchy. Consequently its plan-formulating functions merit rather fuller description.

The main functions of the state planning commission are as follows: to submit draft plans to the Council of Ministers and, more specifically, to decompose the strategy of development, determining the global rate of growth and quantifying the main proportions; to formulate preliminary plan directives for sectoral planning agencies; to test the overall consistency of plan targets; to set up priorities and criteria of optimization for subordinate planning agencies; to confirm sectoral and regional draft plans; to supervise the implementation of the plan; to report to the Council of Ministers on all important deviations from the initial plan in the course of plan implementation; and, finally, to suggest necessary changes of plan targets or technical indicators. The state planning commission is also charged with the introduction of technological innovations and of new techniques of plan-building and data-processing, and supervises the work of (or co-operates with) special committees for science and technology, which in turn co-operate with various institutes of the Academy of Sciences and with specialized branch institutes.[11]

The internal structure of the state planning commission is normally characterized by the existence of two main groups of Divisions or Departments: those concerned with global or aggregate planning; and those specialized in planning certain sectors (including synthetic balancing).[12]

Aggregate planning divisions deal with questions covering the economy as a whole, whereas the sectoral divisions, working in co-operation with the appropriate ministries or regional councils, are engaged in complex planning problems which go beyond the administrative competence of any one ministry or regional council.

The aggregate planning divisions tend to be specialized by such subjects as the annual plan; the medium-term plan; perspective programmes and international co-operation; manpower; investment; material supply; and finance (price-, cost- and finance-policy). The sectoral divisions are specialized in the planning of separate branches (regions) or problems of the economy, such as regional, social, cultural planning; heavy industry; light industry; agriculture; transport; trade; foreign trade, etc.[13]

The state planning commission works in close liaison with the Central Statistical Office, an institution which is usually directly subordinated to the Council of Ministers and whose activities are determined in the main by the needs of the state planning commission. Co-operation with the Ministry of Finance, especially when annual plans are being prepared, is closer than with most of the ministries. The responsibilities of the Ministry of Finance, and of the banks which it controls, include the planning and controlling of the financial aspects of the country's economic activity. It therefore draws up the state budget and all the major financial plans; the financial plan is built on the key indicators of the economic plan, as is the budget.

The state planning commission usually issues only guidelines for the co-operative sector, and relies for their implementation on indirect means (prices, taxes, credits, allocation of state-distributed materials, orders, etc.).

The system of plan indicators is differentiated according to the administrative level of planning. Many of the general indicators of the national plan characterizing the structure of national income are not broken down to the level of individual enterprises. On the other hand, the plans drawn up by regional agencies, and particularly those of individual enterprises, include many targets which are not specified in the complete national plan. Plans proposed at lower levels are subject to approval by ministries and regional councils or by industrial (branch) boards. In the Soviet Union, because of the country's great size, the functions of regional planning agencies are more important and extensive than in other eastern European countries.[14]

Planning sequence

The relations between macro- and micro-planning are complex, and — as already observed — the institutions and institutional channels through which they too are co-ordinated and reconciled have changed on several occasions in the postwar period, the changes having been most frequent in the Soviet Union. However, from the point of view of the central planning agency, three broad successive phases can be distinguished as typical for the entire period, and are illustrated in Chart 1.[15]

In the first phase, planners at the central level work out preliminary directives forming a comprehensive draft of the general economic plan. The main function of these directives is to influence projections on the sectoral and executive levels. The better the first guess of the rate of growth in the preliminary directives — the smaller the number of necessary iterations (cycles of projections) subsequently required to obtain a feasible programme. As

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[11] For a description of the Soviet system, see *Planirovanie narodnogo khozyaistva SSSR*, *op. cit.*, p. 118.

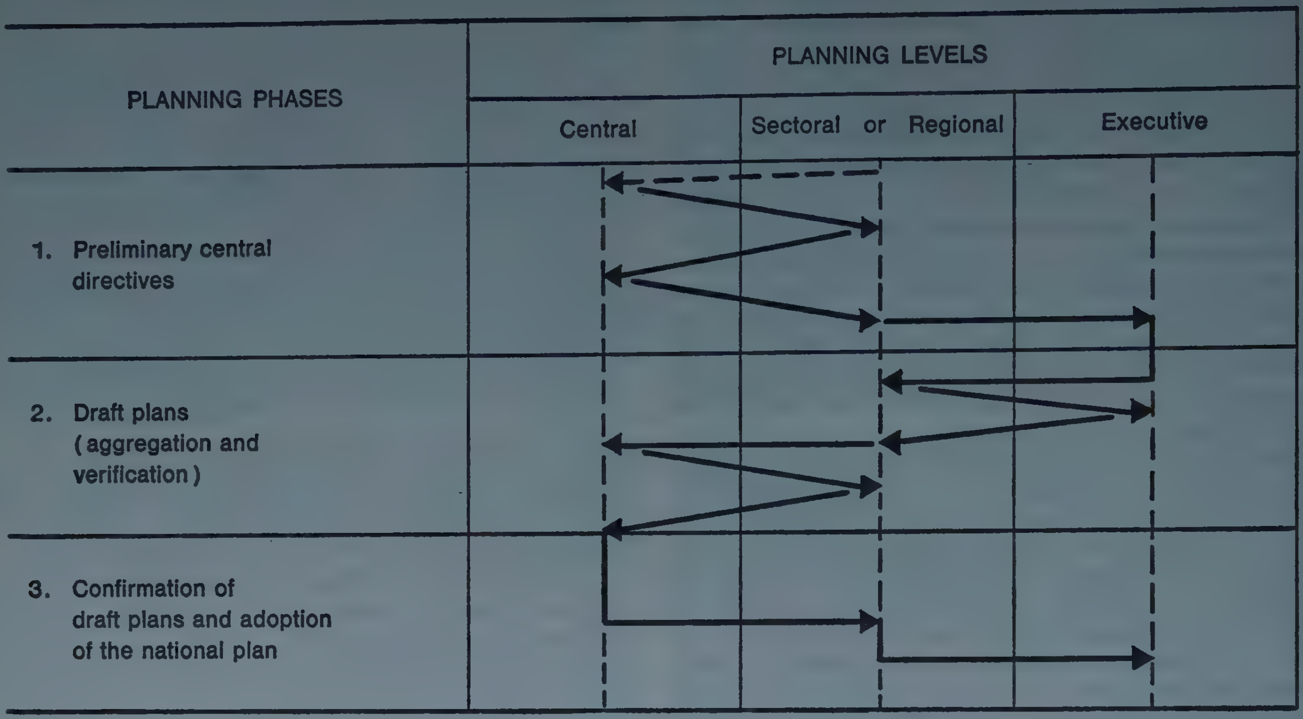
[12] *Op. cit.*, p. 118. The Hungarian scheme is shown here, but is taken as typical of all countries of the area.

[13] Cf. *The main features of national economic planning in Hungary*, *op. cit.*, p. 9.

[14] See also Chapter VI, section 2.

[15] Cf. J. Pajestka: "System Informacji Planistycznej", *op. cit.* The scheme shown provides, of course, a very simplified illustration of interconnexions between the various stages of planning; in practice these connexions are much more complex.

CHART 1


PLANNING PHASES
PLANNING LEVELS
Central
Sectoral or Regional
Executive
1. Preliminary central directives
2. Draft plans (aggregation and verification)
3. Confirmation of draft plans and adoption of the national plan

the formulation of preliminary directives relies on information received from lower levels, and as plans are constantly verified and adapted to changing conditions, planning is a continuous process. Changes of global proportions affect, by the sectoral adaptations which they entail, the plans drawn up at enterprise level; and, in the opposite direction, changes in technological processes at the enterprise level require, again via the sectoral plans, changes in global proportions.

In the second planning phase, draft plans are elaborated by sectoral boards, regional bodies and enterprises. They are supposed to meet requirements of consistency and efficiency, by using progressive norms, balancing techniques and criteria of effectiveness (see section 5 below). The central planning agency seeks to preserve centrally determined proportions, but has to deal with aggregates that can be disaggregated. Consequently, it is only when the detailed proposals put up by the lower planning levels have reached the centre that the macro-economic proportions can be checked and, if the two sets of indicators match, that the macro-proportions be confirmed in the third planning phase as feasible aggregates and take the form of binding directives. To attain consistency it is normally necessary to repeat the procedure several times, although the subsequent cycles of approximation may proceed in various informal consultations, conferences of planners from all levels, etc.[16]

In planning one of the most important methodological problems is that of correct timing; for not all spheres of the economy can be planned simultaneously, but only in a sequence reflecting the chain of mutually interdependent activities. Hence, a list of priorities has to be set and observed by planners for the organization of their work; such priorities can be established in all stages of planning and are intended to determine who supplies what to whom. Planning priorities are set both *within* different fields of planning (e.g. in the elaboration of production plans), and also *among* them (e.g. between the production plan and the foreign trade plan, or between the production plan and the investment plan). Priorities for the provision of data in planning relate only to a given phase of planning — in the first phase, for example, the elaboration of the production plan is preceded by a rough estimate of the national income and by some assumptions derived from it. But in the second stage, as planning becomes more detailed, computations of national income lose their priority. This system of priorities is often followed by the differentiation of the dates set for elaboration.

This complex and iterative procedure requires time, it encompasses thousands of planners, experts and workers' councils, and it has to provide solutions to difficult problems of consistency-keeping and optimization. But time is limited, since planning is concerned not only with establishing the best programme, but also with current economic management; consequently it often happens that the iterative procedure has to be interrupted before all inconsistencies have been removed, their resolution being postponed to the stage of plan implementation.

No form of planning yet devised in eastern Europe is capable of replacing the participation of thousands of planners at various levels in a process of plan building during which all the limitations on, and complex interconnexions, priorities and changing conditions of, the economy are taken up in what amounts to a system of virtually constant consultation. All these factors could not be assimilated into planning by means of direct application of an abstract model that replaces planners at the executive level. This does not mean, however, that mathematical tools are of little use; on the contrary, the application of new techniques of data-processing throughout the economic apparatus of the country, as well as the use of certain macro-models in conjunction with traditional methods of analysis, facilitates the realization of the main task of linking central economic calculations with decentralized projections, and general optimization criteria with micro-economic criteria.[17]

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[16] Cf. J. Pajestka, *op. cit.*

(c) The time-horizon of planning

Differentiated by their time-span, there are four types of economic plan in eastern Europe:

- — long-term or perspective programmes (10-20 years) or plans[18]
- — medium-term plans (4-7 years)
- — short-term plans (2-3 years)
- — annual or operational plans (one year or less).

Perspective programmes are concerned, as their name implies, with the secular transformation of the economic and social structure of the country; their main function is to articulate quantitatively the strategy of development — especially the long-term investment programme, which is the cornerstone of planning decisions. Perspective programmes are for the economy as a whole, and for certain sectors (and regions), but not for all economic units. Such programmes are not usually mandatory. The methods of long-term programming have been developed mainly on the basis of those of medium-term planning, and the resultant similarity makes it difficult to draw a strict dividing line between the two approaches. The following are the principal distinctions which can be made:

(i) The formal difference deserves mention. Long-term programmes are conceptual, not operational; they reflect a determinate stage of a constant process of consecutive explorations; they are not obligatory. Medium-term plans are derived from the final (adopted) version of programmes, which they are intended partly to fulfil; and they are mandatory documents, legislated by the central authorities.

(ii) In contrast with the objectives of the short- and medium-term plans, which are largely determined by the economic conditions prevailing in the base period, in a perspective plan the relations between changes occurring in the long term, realizable objectives, and possibilities during the initial period are not nearly as close. This means that in the long-term plan account must make provision for the effects of a number of quantitative and qualitative factors which will radically differ during its course from those of the base period.

(iii) A long-term programme is primarily designed to shape the most important proportions, directions and mutual interdependences of development; it therefore neglects many details. A long-term programme is essentially only a governing principle of development, concerned mainly with the choice of an adequate strategy and with certain priority sectors. A medium-term plan, although using the same methods of target-setting and consistency checking, goes into much greater detail.

(iv) On account of the different method it employs, long-term programming makes greater use of the participation of scientific organizations and teams of experts than do medium- and short-term planning. Moreover, for the solution of the key problems of long-term development, numerous and complex analytical studies have to be prepared.

Medium-term plans adapt the long-term strategy of development to changed conditions, break down the main long-term policy objectives into specific annual targets, and prescribe the main proportions of economic growth. Medium-term plans are an instrument of intersectoral and inter-regional co-ordination: they indicate ways and means for solving accepted targets and provide for the necessary material and technical supply.

Medium-term plans are, as mentioned, legal documents ratified by the highest state authorities, and are mandatory, their provisions being obligatory for the government agencies responsible for their implementation. Medium-term plans comprise targets or estimates for all segments of the economy: the aggregate targets adopted by the government provide a basis for the plans drawn up by enterprises and other executive agencies. At the executive level, medium-term plans constitute firm guidelines for a number of years in advance, by reference to which the enterprise (or other agent) can organize its future activity, make provision for the introduction of new techniques, and conclude preliminary supply and purchase contracts.

Within the long-term programmes for the period up to 1980 which now exist in virtually all the countries of eastern Europe,[19] a standard five-year period for the medium-term plans has been accepted. This is considered the optimal period, especially for investment programming. The adoption by the CMEA member countries of plan periods with the same boundary years is also intended to facilitate co-ordination in planning and, in particular, a planned specialization of production and development of trade among those countries.

Correspondence between the medium-term plan and short-term or annual plans is achieved by linking the indicators of the latter with the annual targets of the medium-term plan.

Short-term and annual plans are the means by which the annual targets of medium-term plans are broken down into detailed indicators for the entire economy, and adapted to changing conditions. Both the short-term and annual plans are consequently the vehicle by which revisions are introduced into the annual components of the medium-term plans. The main function of annual plans is to provide a framework for the current management of the economy, and a basis for controlling (medium-term) plan implementation in individual enterprises. Short-term plans are obligatory and are worked out in all economic units.

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[17] J. Pajestka, *op. cit.*

[18] In principle, the use of the term " plan " is reserved for a programme which has been confirmed by the authorities and which is legally binding — providing for sanctions for the non-fulfilment of its directives; however, this distinction is not invariably observed and the two terms are used interchangeably. See also note 3 above.

[19] Except Albania and eastern Germany.

In order to ensure uninterrupted planning, the Soviet Union has also introduced the novel practice of preparing plans with a " running " horizon: when each annual plan is elaborated, main indicators for the development of the economy for five years ahead are simultaneously set up. The " running " horizon approach facilitates investment scheduling and, at the same time, provides an additional means of ensuring consistency between plans for different periods.[20]

The time-horizon of the plan appreciably affects the techniques used in its construction. In the technical operation of projection, the more distant the terminal period the greater the scope for postulating changes in production patterns (resulting both from technical changes in input requirement and from changes in the pattern of final demand) and in the social structure. Conversely, of course, the longer the planning period the more numerous the imponderables. In short-term plans boundaries are set to possible changes by existing and anticipated productive capacity. The annual volume going to new investment can be varied, although here there are limits, too, dependent on the decisions taken concerning the allocation of resources to non-investment demand. The longer the time-horizon of the plan, the larger the field of manoeuvre, but the more elements of uncertainty.

The mutual interdependence of plans with different time-horizons consists in their pyramidical structure. Each plan with a longer time-horizon provides the basis for formulating the plan for a shorter period, but at the same time the former plan is directly affected by changes in the latter (the adaptation of annual plans to changed conditions will require changes in the corresponding annual targets of the medium-term plan). Put more formally, this means that plan building takes place in a process of consecutive iterations in time. The process is not simply one of the consecutive refinement of stable long-term programmes by medium-term plans, and medium-term plans by annual plans. As conditions change over time, so plans for all periods are constantly adapted. The nature of the programming process requires continuous work on all existing plans. As soon as the major assumptions on which any plan is based change, revision of the short- and medium-term plans and the long-term programme is inevitable.

Given the mutual interconnexions of the diverse types of plan drawn up in eastern Europe and at different stages of the economic development of countries of the region, it is difficult to assess the relative importance of different types of plan in the evolution of central planning. Logically, the sequence of planning starts from a perspective programme formulating the overall strategy of development, proceeding to the elaboration of more detailed and medium- and short-term plans; but historical experience has been rather different. In the early phases of planning the formulation of the strategy of development took the form of broad, general directives based mainly on political and social considerations and preferences: in most instances the immediate priorities were easily identified and taken into consideration in a current programme for action. Attention was focussed on organizing the management of the newly created socialist sector. Detailed plans or programmes covering a longer time-period were only elaborated for a few priority sectors of salient importance for economic growth.

Subsequently, the need for medium-term co-ordination of production and investment, particularly in the priority sectors, leads to the preparation of more comprehensive medium-term plans. These early medium-term plans were based, however, on a rather weak and narrow statistical base; moreover, because of the lack of sufficient experience in planning, these plans could not be relied upon to determine day-to-day decisions. They had to be continuously revised in the course of annual planning; hence the annual plans were the principal operative instrument of planning. Gradually, however, it has come to be considered that the predominance of the annual plan weakens the contribution that planning can make to purposeful economic development, and the present trend is towards strengthening long-term programming and related medium-term planning at the expense of short-term planning.

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[20] In recent years Poland has also introduced the system of the two-year "running" horizon. The Soviet Union has also begun (in the plan for 1964-1965) to use more extensively ' dual indicators ' — i.e. targets expressed at a range (e.g. 10-15 per cent, or 80-85 million tons) in place of firm specific targets.

3. FORMULATING THE STRATEGY OF DEVELOPMENT

Political, social and economic factors in strategy-building

The translation of general political, social and economic preferences into a set of development targets, their ranking, timing and consistency check, constitute a set of tasks which together may be described as formulating the strategy of development. In the early phases of planning in the Soviet Union and eastern Europe strategy-building was incorporated in the medium-term plans, and was indeed the implicit basis on which they rested. In recent years development strategy has been formulated in broader terms for a longer time-span in the perspective programmes.

The political and social preferences of the policy-maker are of decisive importance in formulating the strategy of development. As was mentioned earlier, the central planning agency can evaluate the economic consequences of different alternative programmes, but is not empowered to express the value-judgement necessary for the selection of any particular programme. Plainly, however, the preferences of the policy-maker are strongly influenced by the results of economic analysis and even by the results of preliminary planning exercises. In practice, this means that the political decision-taking and initial programming take place interdependently and simultaneously and hence no exact dividing line can be drawn between the choices of the policy-maker and those of the central planner.

A political preference for assuring national economic independence may lead a large country to pursue a virtually autarkic policy. The cost of such a choice has to be determined by the central planning agency. In a small country an autarkic path is evidently unrealistic; consequently the political choice is limited to selecting the geo-political direction and long-run international specialization of foreign trade. Such questions as whether and how to diversify the domestic structure of production and exports depend on the value judgement of the policy-maker concerning the relative desirability of greater autarky or a greater investment effort; but this value-judgement, in turn, has to be made with reference to an economic reckoning of existing domestic supplies of raw materials, manpower reserves (based on demographic forecasts), the size of the domestic market, etc.

Similarly, the general preference of governments for attaining the highest possible rate of growth rests on political and social judgements as well as on economic calculations, elements of political and social preferences being combined with economic analysis and forecasting. An evaluation of the scope for raising the rate of growth depends on social preferences concerning the length of the working day (or week) and the willingness to sacrifice a current increase for a future increase in consumption. The degree of this willingness has to be assessed politically and translated into quantitative terms as the maximum tolerable share of national income allocated to investment. On the other hand, the rate of growth is determined by economic calculations concerning the expected increase in the labour force and productivity, the future capital/output ratio (depending on the composition of investment and an assumed rate and direction of technical progress) and the assessment of foreign trade possibilities. But the choice of an investment pattern calls for non-economic value-judgement concerning the future structure of the population and the social and regional distribution of national income; and, as already mentioned, foreign trade assumptions are governed by political preferences concerning the desired degree of foreign dependence. In short, the political executive and the central planning agency have to work in close co-operation while the chain of consecutive choices is made which renders possible the formulation of basic variants of the general strategy of development.

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In the early stages of economic growth the choice of strategy is relatively simple. For instance, in a country which is in the take-off period, where the productivity of labour is low, the share of the industrial sector in total output negligible, and unemployment high, there is a structural disequilibrium between labour resources and available capital. In these circumstances the general strategy would call for accelerated industrialization and a high rate of investment; and this requires, first, the creation of technical capacities for investment; and, second, an increase in social savings.

The creation of technical capacity for investment entails dependence either on home production of capital equipment, or on imports. Export possibilities limit, however, the import of capital goods. Developing capital-goods industries can be oriented — depending on the size of the country — exclusively towards domestic demand or partly also towards export expansion. In either case an analysis of comparative advantage must be undertaken. The preference for minimizing capital outlays may incline the choice in favour of developing production of final goods at the manufacturing stage. On the other hand, limited export possibilities and general insufficiency of raw materials may result in the channelling of investment to the mining sector, which is usually highly capital-intensive, where investment has a long gestation period and where new employment is created in the long, but not in the short, run.

An increase in social savings requires the preparation of a scheme for drawing surplus labour in activity. Employment has to be raised by creating cheap new (labour-intensive) capacities, by increasing the number of shifts worked, by utilizing obsolete equipment, and by a programme of intensive education and training. In short, the policy pursued must be one of full utilization of labour at the lowest cost in terms of additional capital. It may happen, of course, that the requirements of a capital-saving and an employment-expansion policy may be in conflict.

In an economy where the degree of development in the base period precludes so straightforward a choice of strategy, it is necessary to determine those objectives to which planning precedence will be given in the light of the present and expected economic situation (demographic expectations, actual level of employment, raw materials endowment, foreign trade position, political stability and social tensions, etc.). The other objectives will be realized as far as possible in the course of pursuing the main objectives. The planner has to work with a complex system of interrelationships among various branches and consecutive connexions in time. Projections then have to be made *seriatim*, in a process of successive approximations. In these successive phases limiting factors are discovered, specific criteria for overcoming limitations are formulated, and coefficients calculated, etc. Simple forecasting techniques of a general character (e.g. extrapolation) can be used only in the very early stages of planning work. A correct first guess by the central planning agency of the possible rate of growth influences the number of further cycles of projections involving planners at lower administrative levels. For that purpose simple models of the capital/output type are applied, and employment is assessed as a function of output and of investment.[21] Very soon, however, recourse must be had to detailed analysis, which is evidently preferred to reliance on aggregated economic models and extrapolations of past trends.[22]

Various procedures of this kind are in use in eastern Europe. Some of them could be described as belonging to the " resource planning " approach, since they take resources as their point of departure; others could be termed the " demand planning " approach, as they start from the demand projections and work back, through known interdependences, to planned changes in outputs and inputs. In essence, however, the choice of the point of departure for plan formulation is of little importance. What really matters is that in eastern Europe the central planning agency can count on the government's direct control of resources during the more detailed subsequent phases of plan-building.

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[21] J. Pajestka, *op. cit.*

[22] Cf. J. Pajestka, " System Informacji Planistycznej ", *Ekonomista*, No. 2, 1964.

To illustrate alternative approaches to the first phase of strategy-building — i.e. when directives are formulated at the central level — two methods are described below:

(*a*) The traditional " priority resource " approach used in most eastern European countries and founded on Soviet experience. This approach has been developed mainly in the framework of medium-term planning, but it appears that it is now used also in the preparation of perspective plans, particularly in the Soviet Union and Bulgaria.

(*b*) The complex approach[23] used by Professor M. Kalecki in drawing up a first draft of Poland's Perspective Programme for the years 1960-1975.

(a) **The traditional method of strategy-building at the central level**

The first task of long-term planning is to provide the means for selecting a feasible set of national economic objectives and targets in conditions of *uncertainty*. Demographic trends and the future structure of the population can be forecast, but not planned. Neither changes resulting from technical progress nor the future preferences of the population can be foreseen with accuracy. Future discoveries of raw material resources can be anticipated and discounted in broad terms, but not specified in advance; nor can future productive capacities, labour productivity, and investment outlays be evaluated with accuracy. Agricultural production, foreign supply and foreign demand, changing political and social conditions, are all imponderables either wholly or partly independent of the decisions of the planning authority. In such conditions of uncertainty detailed model-building is impracticable, and instead planning proceeds with reference to certain general guiding principles.

The main guiding principle is that of maximizing the growth of a given structure of national income subject to the limits set by the required improvement in living conditions.[24]

A preparatory analysis of the base (or reference) period discloses the initial proportions and indicators and the major determinants of future growth. This knowledge, and the political and social preferences of the policy-maker, permit the identification of growth-inducing branches, the so-called " leading links ", a rise in the output of which is decisive for the development of the economy as a whole. On the basis of detailed projections of growth in these priority branches, provisional global economic models are constructed, expressing the most essential comprehensive relationships between the aggregate indicators. Together, they form the " balance of the national economy ". Thus, the non-priority branches are so treated as a kind of residual which is investigated in more detail in medium-term plans. In what follows a general, and simplified, scheme of the stages of formulating a long-term plan by traditional methods in eastern Europe is set out.[25] The approach does not consist of the formulation and mathematical solution of an initial global model using production functions, etc. In practice, targets are determined by a number of mutually reinforcing methods; production is expressed as a function of labour inputs; labour requirements are then estimated as a function of production; and then the growth of production is assessed as a function of investment, etc. Although these various stages do not constitute a consistent econometric scheme, the following phases can be distinguished for the purpose of illustration.

Since production in a centrally planned economy cannot be limited by insufficient effective *aggregate* demand, it is supply factors which determine the growth of production, weak demand for specific products being considered as only a partial constraint. The growth of the volume of output is considered to be a function of the following main factors:

E — increase in employment
I — investment
T — technical progress.

Production (P) is then the sum of output in the base year (P_o) and of the increase of output (ΔP).

$$P = P_o + \Delta P\,(E, I, T).$$

These relationships are then analysed in terms of the rates of growth of individual sectors (industry, agriculture, transport, commodity trade);[26] rates of growth of the national income; and rates of growth of gross national product.

Formal aggregate production functions are not used in eastern European planning; but the estimated growth rates of the volume of output are based on an assessment of available resources (labour, fixed assets, raw materials) and their utilization.

The initial evaluation of these resources in the first stage of plan formulation usually includes some kind of " planned extrapolation " — i.e. an extrapolation of past trends corrected by the results of the analysis of factors determining future development.[27]

Labour resources and labour productivity are treated as the main determinant of the pace of economic expansion.[28] The increase in the volume of the social product [29] is determined on the basis of the number of workers in the productive sectors and of the estimated increase in the productivity of labour.

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[23] This approach has been used in both long- and medium-term planning.

[24] The underlying assumption is that " a high level of labour productivity and high living standards of the people can be achieved only at high rates of the economic development ". A. I. Notkin, *Planning of Rates and Proportions of National Economic Development*, *op. cit.*, p. 3.

[25] Cf. J. Pajestka: *Methods of long-term projections for the centrally planned economies*, United Nations document EPPC/LTEP/R.5, 18 May 1962.

[26] Notkin, *op. cit.*, p. 4.

[27] Notkin, *op. cit.*, p. 5 and *Voprosy ekonomiki*, No. 11, 1961.

An estimate of the population of working-age is obtained from demographic studies. Assuming

$$P_w = h\,(P_o)$$

where: P_w — population of working-age
P_o — total population

the labour force (F) is calculated as a function of the population of working-age

$$F = h\,(P_w).$$

Employment is treated as being equal to the labour force (full employment being postulated). Labour input, which is a function of the volume of output and productive techniques, equals the total available working time:

$$Z = F \cdot b$$

where: Z — labour inputs
F — active labour force
b — average working time.

As a rule the active labour force is considered as consisting of two parts — the active agricultural population (F_a), and employment in non-agricultural sectors (F_n)

$$F = F_a + F_n \cdot$$

When labour reserves exist in the agricultural sector, the size of migration from the countryside to the towns must also be included in the estimates.

Labour inputs in non-agricultural sectors are obtained as a function of the labour requirements of these sectors:

$$Z_n = g\,(P_n, T_n)$$
$$F_n = \frac{Z_n}{b_n}$$

where: Z_n — labour input in non-agricultural sectors
P_n — output of non-agricultural sectors
T_n — techniques in these sectors
F_n — employment in these sectors
b_n — average working time.

Then, the size of the agricultural labour force is determined as a residual. When there is no longer any agricultural underemployment as expressed above, the planning of employment rests on the following relationships:

$$Z_a = g\,(P_a, T_a)$$
$$Z_n + Z_a = F_n\, b_n + F_a\, b_a$$

The next step is to distribute the estimated increase in the labour force among the main productive branches of non-agricultural activities (including transport). The last stage for the completion of the labour balance is the determination of the number of workers to be employed in the non-productive or service sectors, which are usually treated as a residual.

Once the number of workers in productive sectors has been established as the prime factor determining rates of growth of these sectors, the analysis of the second factor — labour productivity — can be put in hand. Productivity is first estimated by considering all factors other than investment. Again, the point of departure is an analysis of past trends. Then, all non-investment factors influencing labour productivity are examined: the concentration (scale), specialization and distribution of production; improvements in enterprise organization, the quality of natural resources and the introduction of new substitutes, the increase in skill of the labour force (training facilities), etc. The consequences of all such factors affecting the potential growth of labour productivity are estimated, and the resulting changes of productivity norms and normatives are introduced into the planning calculus.

Since an expansion of the number of employed and a substantial increase in labour productivity require capital outlays, the next stage is the analysis of what is regarded as the crucial factor of development — investment planning.

The general aim of maximizing the long-run rate of growth is held to require the maximization of the volume of investment. Here two basic limitations have to be dealt with: first, the supply of capital goods, and, second, the social costs of accumulation. When the supply of capital goods as a limiting factor is examined, the following determinants of the volume of investment are taken into consideration in the form of balances: [30]

$$I = C_c + IC_c + M_c$$

where: I — gross fixed investment (volume)
C_c — existing capacity for producing capital goods
IC_c — technically possible increment of capacity for producing capital goods
M_c — import of capital goods (net).

The second limitation — that of the social costs of accumulation — is of decisive importance and is, perhaps, the most complex problem confronting the policy-maker. By and large, two main periods can be distinguished in respect of investment ratio policy. The first period is characterized by strenuous efforts to raise the investment ratio in order to achieve structural conditions favouring fast and sustained economic growth. In the second period the investment ratio tends to be stabilized at a level which is regarded as approximating to a certain social-economic optimum.[31]

The basic relationships shown in the balances which are then formulated are as follows:

$$I = S + D + L$$

where: I — gross investment
S — home savings
D — depreciation
L — foreign loans (net).

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[28] J. Pajestka, *op. cit.*: " Employment policy was one of the most important instruments of the growth policy in the socialist countries in the early stages of their economic development. Maximum-employment policy together with maximum utilization of the existing capacities brought about speeding up of the rate of growth and allowed for fast achievement of a high investment ratio ."

[29] See section 5, p. 25, for a definition of the concept ' social product '.

[30] J. Pajestka, *op. cit.*

[31] J. Pajestka, *op. cit.*

Savings are normally treated as a function of national income (Y):

$$S = g(Y).$$

There are two major constraints in the choice of the policy-maker: (*a*) the lower limit of accumulation, determined by demographic investment (due to the growth of population),[32] and (*b*) the upper limit, i.e. the politically and socially acceptable minimum share of consumption in national income.

The final choice of an acceptable level ratio of accumulation remains, however, a value-judgement, representing the choice between current and the future consumption.

Calculations of investment efficiency are made at this early stage, although the major part of the analysis of investment alternatives is undertaken at later stages, on the sectoral and branch level of planning (see sections 4 and 7 below): various sectors or branches are analysed for this purpose by means of capital/output ratios, capital/employment ratios, indexes of equipment utilization per worker, power consumption per worker, etc. Alternative planning indicators are then evaluated and compared with analogous series for economically more advanced countries. These comparisons relate the available supplies of raw materials and other natural resources to their degree of utilization, productive capacities to the level of demand for the products concerned, available commodity supplies with the level of consumption. These comparisons are of assistance in determining planning standards and more precise partial criteria for specific plan targets.[33] The likely consequences of technical progress in various priority branches are assessed and compared, and the optimization problems to be solved on the sectoral level of planning are formulated.[34]

Since aggregate production functions are not used as planning instruments, no single variable expressing technical progress features in the planning procedure described. Technological changes, as well as other elements of technical progress, are being evaluated in plan-formulation in relation to their effects. Certain forms of technical progress in the main branches of production which have already appeared elsewhere are analysed, and their economic effects are brought into the assessment of future labour productivity.

In order to determine the relationship between output and requirements, the projected rates of growth of output of the main branches have to be checked for overall feasibility and consistency.[35] This check of consistency is carried out by means of balancing for different cross-sections and on various levels of aggregation. " The process of analysing the relative rates of development of the various economic sectors and determining trends is a complex one, since the development of each sector or region is studied in the light of the interests and needs of the economy as a whole and of the results achieved in related and interdependent sectors and regions. The aim of this analysis is to ensure that available resources are utilized with a view to meeting the specific requirements of each region or sector and of the country as a whole — essentially, in other words, to determine the extent to which production is geared to consumption." [36]

Norms and normatives [37] relating to " social development " are determined on the basis of family budget analysis, scientific research and international comparisons, and take into account political and social preferences. In that way future requirements of the population are set and production programmes are confronted with independent estimates of the demand for definite commodities or groups of commodities.[38]

The following general balance-formula represents an internally consistent programme: [39]

$$O + M = OA + K + I + X$$

where: O — gross output
M — imports
K — consumption
I — investment
X — exports (all sectors)
A — matrix of current coefficients.

The national balances are drawn up for the most important commodities (or groups of commodities) called basic materials and are, as a rule, in physical terms, although some of them are prepared in value terms — e.g. those for capital equipment. The coefficients accepted for the balances are estimated or calculated for future conditions on the basis of past experience and of the results of research (" progressive norms ").

Only a limited number of balances are drawn up for long-term programming at the central level, although their number increases in sectoral long-term programming. The shorter the programming period, the more detailed the balances become.

Given the complex interconnexions linking the development of many branches of production, planning of the branch pattern of industrial growth proceeds from the preparation of balances showing the distribution of the most important interconnected products which then yield an inter-industry balance of distribution. These balances make it possible to co-ordinate the production, distribution and consumption of various kinds of materials, equipment, the development of mining and manufacturing industries, etc.[40]

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[32] " If the national growth of a country's population amounts to 1.5 per cent and 3 per cent of the national income is spent for each percentage of the increase of national product, then demographic investment will account for 4.5 per cent. " (A. I. Notkin, *op. cit.*, p. 10.)

[33] Cf. M. Z. Bor, Annex II to *Planning for Economic Development*, United Nations document A/5533/Rev.1, p. 121.

[34] Methods of analysing alternative investment choices are discussed in section 7 below.

[35] " The task of planning at the aggregate level has been less to construct models from which the requisite changes in the composition of output and resource allocation could be derived, than to test the consistency and overall feasibility of sectoral production plans ". (M. Z. Bor, *op. cit.*, p. 119.)

[36] *Ibid.*, p. 120.

[37] See also section 4, pp. 18.

[38] *The main features of national economic planning in Hungary*, *op. cit*.

[39] J. Pajestka, *op. cit.*

[40] The methods used in drawing up the various balances are described in section 5.

Two main methods of sectoral and intersectoral analysis are in use.[41] The first uses input-output tables with corrected (planned) coefficients. The second, and more traditional, method consists in assessing the interrelationships of final demand and gross outputs of the various sectors. Thus, for example, output of building materials (P^{mb}) is treated as a function of output of construction sector (P^{b}), which is a function of gross investment (I):

$$P^{mb} = f(P^{b}) = g(I).$$

Noteworthy features of this method are that the analysis of entire sectors is conducted in value terms, whereas that for key products is in natural terms; and the sequence of the analysis is the reverse of technological relationships in that it starts from finished products and proceeds through semi-products to raw materials. The parameters of interrelationships are not assumed to be constant, but are forecast on the basis of observed past trends and some knowledge of how conditions will change. Finally, the analysis is intended to provide a test of the feasibility of the desired rate of growth of output.

The results of the two methods are then compared: the first goes deeper into structural relationships, but the second is a more practical means of assessing changing parameters. The planners rely on the analysis of the " key products ", which are also the most capital-intensive products. Capital requirements are estimated from the analysis of specific investment projects and using net coefficients obtained from statistical analysis. Feasibility studies are undertaken for all sectors, and encompass a great number of investment projects.

Planning has to resolve a number of problems which can be dealt with only by taking into account foreign trade. Two main approaches to the foreign trade problems of planning can be distinguished:

— First, the assessment of long-term agreements with other centrally planned economies. Planning agencies in the interested countries consult one another on problems of long-term specialization of production and mutual supplies. At a later stage the central machinery of the Council for Mutual Economic Assistance sets out to co-ordinate national economic plans and proposes solutions at the international level.[42]

— The assessment of foreign trade balances with countries with no long-term trade agreements existing or expected.

Foreign trade balances, as they appear in the development programme, can be drawn up by making use of the following formula, calculated separately for the two groups of countries distinguished above. The volume of non-competitive imports is estimated on the basis of balances resembling input-output tables. The volume of exports is determined by an analysis of past trends in the proportion of output exported. On the assumption of restricted export possibilities, balance may not be obtained. If this inequality is not satisfied, foreign trade is a bottleneck to development, and the volume of output is, consequently, determined by export capacity and loans. Calculations of foreign trade efficiency must then be made, and their results lead to correction of the earlier projections from which the foreign trade factor was excluded.

Finally, all partial relationships are integrated in the form of a set of synthetic value balances, to form the " balance of the national economy ", which amounts to a synthetic model of the national economic plan.[43] The main function of this system of synthetic value balances is to provide a means of testing the consistency of the main proportions of the development plan. For example, if aggregate output is treated as falling into two main sectors — capital goods and consumers' goods — the following simplified formulae can be used:

$$P_c + M_c = I + X_c$$
$$P_k + M_k = K + X_k$$

where: P_c, P_k — final output of the capital and consumer-goods sectors respectively
M_c, M_k — imports of the respective sectors
X_c, X_k — exports of the respective sectors
K — consumption
I — capital investment.

This type of analysis makes possible a review of the consistency of the final planned relationships between industry and agriculture, production and transport, output of consumers' goods and the money incomes and expenditures of the population, etc.

These value balances do not make use of coefficients. They are drawn up on the basis of the sectoral projections and, in perspective plans, are usually constructed for the final years of each five-year period. Analysis of the balances reveals inconsistencies, disproportions and limiting factors, and they reveal where changes in growth rates and proportions are necessary. Following a process of trial and error at the central level, a set of plan directives is finally accepted, serving as a firm basis for more detailed sectoral plans.

The directives thus formulated set certain limits (minimum output targets, ceilings for capital expenditure, employment, raw material consumption, etc.), and also indicate optimization criteria which may be the maximum growth of output, minimum costs, minimum capital expenditure, etc. These optimization criteria, although not necessarily formulated systematically for all cases, are also applied during the elaboration of sectoral- or branch-plans.

The priority-approach used in long-term planning allows disposable resources to be concentrated on those development objectives to which the policy-maker attaches overriding importance. In early stages of development, it is an approach which may be rational and justified. In subsequent stages of development, as the range of choice widens, there is need for a more comprehensive and consistent approach, under which no sector of production and no category of end-use is treated as a residual. And as the stream of information improves and the stock of planning experience accumulates, the prospects for solving detailed problems of consistency in principle improve too. Problems of global efficiency gain in importance, the role of a comprehensive criterion for measuring the rise of labour productivity increases, and a new, more consistent method of plan formulation is required.[44]

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[41] J. Pajestka, *op. cit.*

[42] Cf. *The main features of national economic planning in Hungary*, *op. cit.*, p. 83.

[43] The components of the balance of the national economy are described in some detail in section 5 below.

In illustration of recent attempts to translate this requirement into an alternative method of long-term planning, the following subsection provides a description of an approach used by Professor M. Kalecki in preparing the first draft of Poland's Perspective Programme for the years 1960-1975.

(b) A method of formulating a perspective plan at the central level[45]

It is taken as axiomatic that the government wishes to achieve the highest possible rate of growth. The principal constraint on the maximization of the rate of growth in the long run is that investment expenditure cannot exceed a certain limit; for an increase in the rate of growth requires an increase in productive investment — and increased investment means, in the short run at least, a reduction of consumption and of unproductive investment. This directly affects the standard of living and thus sets a limit to the increase of the share of productive investment in national income.

The second major constraint is that set by foreign trade. In order to obtain increased imports of capital goods, the country must raise its exports. But the larger the import requirements, the more difficult it becomes to increase exports, production of which becomes more capital-intensive in relation to earnings of foreign exchange. Rising import requirements call for further investment outlays needed to balance foreign trade, so that additional investment demand is generated and exerts pressure on the limit set for the share of productive investment in the national income.

A third constraint may arise from the amount of investment required for raising labour productivity in conditions of labour scarcity; for here, too, the share of investment in national income sets a limit which cannot be surpassed.

In sum, the main obstacle to a high rate of growth in a perspective plan is its considerable capital requirements, both direct and indirect.

In Professor Kalecki's general model[46] the basic relationships determining the rate of growth of national income are as follows:

$$\frac{\Delta Y}{Y} = \frac{1}{m}\frac{I}{Y} - a + u$$

where:

Y — annual national income
ΔY — annual increment of national income
both calculated in gross terms (i.e. without deduction of depreciation) and at constant prices
m — marginal capital/output ratio
I — annual gross expenditure on productive investment at constant prices
a — capacity reducing coefficient (related to annual replacement of worn-out fixed capital)
u — coefficient expressing the annual increment of national income due to factors other than investment (better utilization of fixed capital, etc.).

When this model is used in perspective planning, it is assumed, first, that there is no accrual of foreign credit, so that the necessity of balancing foreign trade is paramount; and, second, that the increment of output yielded by better utilization of fixed capital is equal to the decrease in output due to the retirement of worn-out fixed capital (i.e. $u=a$). It follows that in the long-term analysis of basic relationships the increase in output is treated as a function of productive investment only —

$$\frac{\Delta Y}{Y} = \frac{1}{m}\frac{I}{Y}$$

The first step is to postulate a high rate of growth of national income, with reference to demographic forecasts, assumed rates of increase of consumption, and past trends. On the basis of past experience and expected trends, a very approximate estimate is made of the capital coefficient, relating the increment of national income to that of productive investment. This yields a first approximate value for annual productive investment at the beginning, middle and end of the perspective plan period. The coefficient relating to the increase of inventories is obtained in a similar way, and thus the increase in inventories. The sum of consumption and unproductive investment for the three periods is the residual when productive investment and the increase in inventories are deducted from national income.

So that this aggregate sum can be divided into its two components — consumption and unproductive investment — the standard of commodity consumption resulting from the earlier exercise is compared with the capacity of fixed assets providing consumers' goods and services. This division may be reasonable, but must to a great extent be arbitrary. Finally, the distribution of national income among four major components — productive investment, increase in inventories, unproductive investment and consumption — is obtained.

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[44] A summary account of the evolution of programming and planning methods is given by A. I. Notkin in the following terms: "At certain stages of economic advance priority in the development of some leading branches of the national economy and industry is the initial point in working out plans. However, as the industrial structure is developing, the branch method of making a plan proves insufficient. The degree of solving mutually related tasks of the rise of labour productivity and well-being of the people more and more becomes the criterion of optimum of the planned rates and proportions, since labour productivity determines to a larger extent possibilities of the rise of the people's consumption which, in its turn, promotes the increase of labour productivity. In this way, the whole system of planning rates and proportions of economic development is directed to the solution of key tasks of a socialist society — the rise of labour productivity and well-being of the people." (A. I. Notkin, *op. cit.*, p. 19.)

[45] This subsection is based on Professor M. Kalecki's study "An Outline of a Method of Constructing a Perspective Plan" in *Essays on Planning and Economic Development*, Warsaw 1963; an early version of the study was submitted to the United Nations Conference on the Application of Science and Technology for the benefit of the less-developed areas (Geneva 1963) as document E/CONF.39/12. It is based on Polish experience of long-term planning, but is only one of a number of approaches which were used in the preparation of the Perspective Programme for the years 1960-1975.

[46] In a recent study entitled "Outline of Theory of Growth of a Socialist Economy" (Warsaw 1963), Professor Kalecki extends the above model to the analysis of the relationships occurring, under different assumptions, between the rate of growth, consumption, investment, foreign trade, and labour.

On the basis of the income elasticities of demand derived from family-budget inquiries and the analysis of the structure of consumption of countries where national income per capita is similar to that postulated in the plan, it is possible to arrive at a reasonable estimate of the structure of consumption (private and collective) at the beginning, in the middle and at the end of the plan period. Given the future volume and structure of consumption, the volume of productive and unproductive investment, and the increase in inventories, it is possible to make a rough estimate of domestic demand by sectors of the economy. This estimate is based on past technical coefficients of production, corrected by assumptions concerning future technical progress and the choice of technology. The next step is to proceed to a test of the balance of foreign trade; and to obtain a more accurate approximation to the capital coefficients, reflecting the structure of the increment in output.

To do this, all economic activities are considered as belonging either to 'supply-determined' or 'demand-determined' categories. Supply-determined activities cannot exceed a certain ceiling for the long-run rate of growth for technical and organizational reasons (limited natural resources, lack of skill); no additional capital outlays will raise their output beyond this ceiling. Demand-determined activities have no such ceilings within the considered rates of growth of the national income; and the output of these activities can increase in the long run in accordance with demand.

If any given branch is a supply-determined activity, it is possible to ascertain how much of its product is available for export, or how much has to be imported (import requirements include non-competitive imports). In this way a first approximation of import requirements is obtained (the potential scope for import substitution being an element of the calculation). By deducting from this value for import requirements that of exports of supply-determined activities, the amount has to be covered by the proceeds of exports of demand-determined activities. This residual, plus domestic demand for products of demand-determined activities, gives a value for total requirements for the production of demand-determined activities. Thus, the demand generated by the four domestic components of the national income (either directly, or *via* exports covering import needs) is equivalent to the national income.

The feasibility of foreign trade — i.e. the practicability of placing exports in foreign markets at assumed prices — has then to be verified and the total investment requirements for the realization of this export programme have to be assessed. If this procedure indicates that the estimates of either foreign demand or of the investment requirements for the export programme are unrealistic, the rate of growth has to be scaled down.

A reduction of the growth rate of national income, while the expansion of supply-determined activities is maintained, will restore equilibrium in the balance of foreign trade.

The next step is to test the balance of supply of and demand for labour. The supply side of the balance is based on demographic forecasts; the demand side is based on the industrial structure of national output, with allowance made for the increase in productivity estimated to result from technical progress. If labour is scarce, provision for more mechanization and modernization must be indicated in the plan and this, in turn, leads to an increase in the allocation to investment.

Finally, once the industrial structure of national output has been determined in relation to foreign trade difficulties and the manpower balance, the estimate of total productive investment has to be reviewed. The revised value may differ considerably from the first crude approximation. If the new share of productive investment proves to be unacceptably high the growth rate has to be reduced, and the new variant is analysed in the same way as before.

The final variant should assure the highest possible rate of growth, in conjunction with external balance, manpower equilibrium, and the desired standard of living of the population.

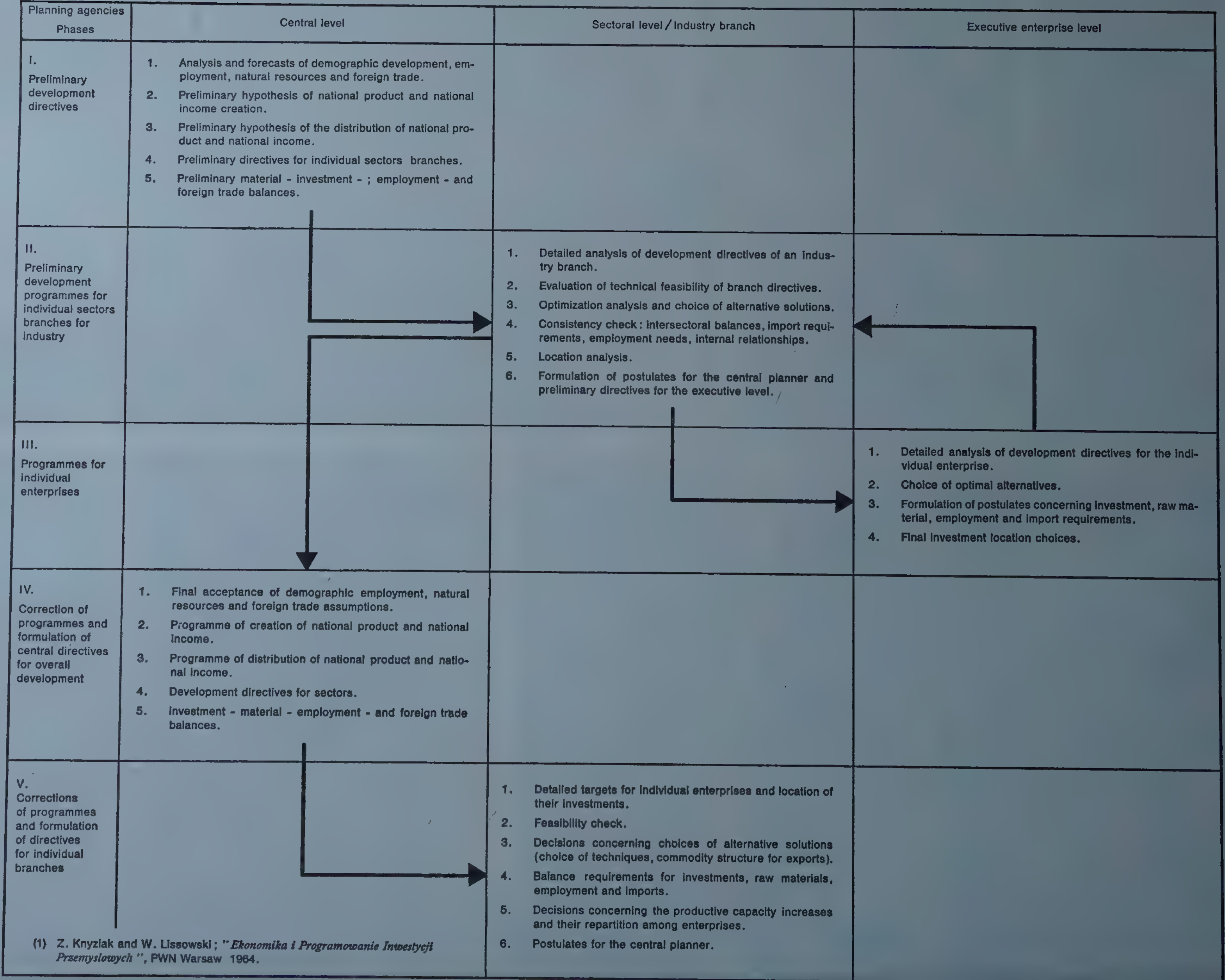
Programming and projections at the sectoral and branch level

The sectoral or branch level of programming owes its considerable importance to the confrontation and reconciliation which has to be effected between the rather loosely formulated aggregates transmitted from the central planning agency and the economic and technical possibilities reported by the executive level. It is at this level that the general economic directives are translated into specific targets expressed in physical units, that technical interdependences are evaluated, that the consequences of the preliminary directives are formulated in detail in terms of investment, employment, raw material and import requirements. Given the concern of individual enterprises with primarily technical matters connected with production, problems of consistency and efficiency are dealt with in the main by industrial associations.

The accompanying "Scheme of programming the development of an industrial branch" (Chart 2) illustrates the pattern of exchanges which take place among the various administrative levels during the preparation of a branch programme. The sequence of phases shown in the scheme may sometimes be reversed, the process starting with individual projections at the executive or branch level, and the general proportions of development being formulated at the second stage. This procedure implies that the enterprises draw up their development proposals so that only technical constraints limit the principle of maximization of output. Since it declares the full extent of reserves this reverse procedure is helpful in cases where growth potential is not known accurately at the central level. Plainly, however, such a procedure, which calls for the drafting of many variants of the plan, cannot yield an internally consistent programme and is therefore more in the nature of a preliminary exploration of development

CHART 2

Scheme of programming the development of an industry branch (1)



Planning agencies Phases	Central level	Sectoral level / Industry branch	Executive enterprise level
I. Preliminary development directives	1. Analysis and forecasts of demographic development, employment, natural resources and foreign trade. 2. Preliminary hypothesis of national product and national income creation. 3. Preliminary hypothesis of the distribution of national product and national income. 4. Preliminary directives for individual sectors branches. 5. Preliminary material - investment - ; employment - and foreign trade balances.		
II. Preliminary development programmes for individual sectors branches for industry		1. Detailed analysis of development directives of an industry branch. 2. Evaluation of technical feasibility of branch directives. 3. Optimization analysis and choice of alternative solutions. 4. Consistency check: intersectoral balances, import requirements, employment needs, internal relationships. 5. Location analysis. 6. Formulation of postulates for the central planner and preliminary directives for the executive level.	
III. Programmes for individual enterprises			1. Detailed analysis of development directives for the individual enterprise. 2. Choice of optimal alternatives. 3. Formulation of postulates concerning investment, raw material, employment and import requirements. 4. Final investment location choices.
IV. Correction of programmes and formulation of central directives for overall development	1. Final acceptance of demographic employment, natural resources and foreign trade assumptions. 2. Programme of creation of national product and national income. 3. Programme of distribution of national product and national income. 4. Development directives for sectors. 5. Investment - material - employment - and foreign trade balances.		
V. Corrections of programmes and formulation of directives for individual branches		1. Detailed targets for individual enterprises and location of their investments. 2. Feasibility check. 3. Decisions concerning choices of alternative solutions (choice of techniques, commodity structure for exports). 4. Balance requirements for investments, raw materials, employment and imports. 5. Decisions concerning the productive capacity increases and their repartition among enterprises. 6. Postulates for the central planner.	

(1) Z. Knyziak and W. Lissowski; "*Ekonomika i Programowanie Inwestycji Przemyslowych*", PWN Warsaw 1964.

possibilities. The essential problem is not where to start from, but how to reconcile the differing approaches of the central planning agency and of the executive level. Until now the process of planning and counter-planning has consisted in consultation and co-operation between planners at all administrative levels, using traditional methods of trial and error in target-setting and consistency analysis. While it is widely recognized in eastern Europe that this procedure, besides its methodological drawbacks, does not yield an optimal solution, no better alternative is yet available.

Progress towards the formulation of a consistent programme proceeds through a series of variants. As a rule, the first variant reveals the main limiting factors (employment, raw materials, bottlenecks, foreign trade, etc.) which are then analysed in successive variants until a solution is found. Capital-intensity, and the import content of various groups of consumers' goods, are analysed in the process, and efficiency calculations are applied.

Concluding phases of plan formulation

There is an appreciable difference in the planning undertaken at the centre between the preliminary and concluding phases of formulating central directives. In the final stage the central planning agency has at its disposal not only statistical data but also " plan information " indicating the preferences and possibilities of the various executive agents, which are incorporated in various plan drafts. Then the process of mutual adaptation of macro- and micro-economic criteria begins, for the central planning agency cannot disregard the executive point of view. The proposals emanating from the executive levels are aggregated at the centre and attempts are made to co-ordinate them in such a way as to make them mutually consistent and in harmony with global criteria. This process of proposal and counter-proposal entails several repetitions of the cycle, and the plan variant finally chosen usually differs greatly from the preliminary programme.

4. TARGET-SETTING IN MEDIUM-TERM PLANS

(a) Role and methods of medium-term planning

The status and scope of medium-term plans

When a development strategy has been broadly formulated in a long-term programme, its translation into the detailed targets (for investment, production, foreign trade and consumption, etc.) of a medium-term plan is a complex procedure in which the central planning authorities, intermediate administrative levels and the management of enterprises choose the final variant of the plan after several stages of iteration — the ' planning and counter-planning ' referred to earlier. The chosen variant must be consonant with the strategy objectives, but differs from them by specifying hundreds of detailed plan targets which, when approved, become legally binding and serve to guide decision-taking on an annual or even daily basis at all levels of the economy.

Target setting for a medium-term plan which is subordinated to a perspective plan requires that choices be made between objectives in respect of their time sequence and interconnexions, and consists therefore also in the establishment of explicit or implicit priorities and in ensuring consistency amongst the targets once set. Given state ownership of, and control over, a major part of the economy and the monopoly powers of the state over product and factor markets, it is in principle within the means of the central planning authorities to attach absolute priority to any one development objective regardless of secondary effects and of price and cost considerations; but in comprehensive planning secondary effects cannot be ignored, and the central planning authorities are bound to be concerned with the economy as a whole and hence with sectors other than those of high priority.

Medium-term plans in eastern Europe encompass the whole process of production and allocation for periods of between four and seven years. By means of these plans the state assigns a whole complex of interconnected tasks in the field of industrial production, agricultural production transport, domestic trade, agricultural procurements and foreign trade to its agents and citizens; the fulfilment of these tasks is intended to provide the material resources necessary for sustaining material production and for providing final products for fixed capital investment, stock investment and state reserves, public consumption, public and private services and personal consumption, and for export.

The medium-term plans establish a direct link between production and resource allocation over the whole field of the economy. The setting of production targets for the final year of the medium-term plan and for a number of intermediate periods, and for assuring the necessary capital and current inputs for the fulfilment of these targets, is the critical stage in formulating the plan. The specified volume of final and intermediate production has to be obtained on the basis of plans of capacity utilization and of additions to capacity, and of increases in productivity and employment.

The allocation side of medium-term plans is also comprehensive. The plans for resource allocation show the expected increase of the national income and its distribution among the various categories of investment and consumption. A comprehensive and detailed investment plan covering the full plan period, and a retail trade plan, generally relating to the last year of the plan period and including significant commodity detail, are also prepared. Improvements in the standards of social services are as a rule included in order to show the planned increases of social consumption.

These diverse plan components of product and factor supply and of product allocation are shown in the medium-term plan as being of formally equal importance and as of equal legal force, but this equality is apparent only, and conceals the set of priorities arising from the development strategy already chosen and respected in both the formulation and implementation of the plan.

Target-setting procedures — the system of plan indicators

The national economic plan is formulated in a system of plan indicators which serve the threefold purpose of facilitating the construction of the plan, of distributing its tasks among economic agents, and also of providing a means of control over plan execution. Certain requirements have to be observed if the indicators are to serve these purposes effectively. Plan indicators must encompass the whole of the development (enlarged reproduction) process; form a uniform structure which reflects the links between various sections of the plan and sectors of the economy; be suited to the type of task in question and be expressed (quantitatively or qualitatively) either in physical or in value terms; be appropriate to the peculiarities of each sector or branch; and, finally, the plan indicators have to be based on a consistent method at all stages of planning, plan fulfilment and plan control.

The system of plan indicators has to satisfy these requirements irrespective of their field of application or of the degree of centralization in plan implementation. Plan indicators can also be differentiated according to their legal status, some having the force of law, others serving rather to provide informational guidelines. The existence of numerous obligatory indicators is, as a rule, an indication of a high degree of centralization of economic management, and *vice versa.*

Norms and normatives

A major part of the system of mandatory plan indicators consists of norms and normatives (i.e. group norms). Norms are technical standards prescribing the material, labour and capital requirements per unit of output during the plan period in each producing enterprise. Normatives are composite norms, widely used in plan formulation at the central and regional levels, and establishing the labour and material-technical requirements for production of commodity groups or branches on the basis of the norms applied by individual enterprises — e.g. coal consumption in calories per MWh of electric power production or brick, lime or cement consumption per one million currency units of housing construction. Preliminary norms are drawn up as a rule by each workshop within an enterprise, and are then subject to confirmation or revision by the intermediate executive agencies, only the more important, and material-intensive, processes being referred to the central planning agency for decision. The latter, however, does establish for each plan period the degrees by which the norms should be reduced as technical progress proceeds.

Three main types of production norms can be distinguished. First, there are raw material consumption norms, prescribing the quantity of raw materials required for producing one unit of output; raw material utilization norms — their reciprocal value — determine the quantity of output obtainable from one unit of raw material. Second, labour norms prescribe the working time required for producing one unit of output or, inversely, the quantity of output that can be produced in one unit of working time. Finally, there are norms of capacity and capacity utilization. Fundamentally, production norms and normatives constitute technical input-output coefficients of materials, fixed capital equipment or labour. They can also be used, however, in combination with incentives, as means of raising the efficiency of management and labour. In this connexion, the methods of establishing labour norms are particularly important.

The function of national economic balances

National product and factor balances, which are described in some detail in the next section of this chapter, are the most generally used means of assuring the concordance of plan requirements with available resources, not only in the process of target-setting but also in that of programming and plan implementation.

In target-setting, balances of national income by origin and destination are used for obtaining consistency between the national aggregate of domestically produced income and product availabilities, on the one hand, and its distribution among fixed capital investment, stock investment, public and personal consumption, on the other hand. " Material balances " are used for ensuring consistency on a national scale between the supply and allocation of single products or groups of products — whether materials, investment- or consumer-goods. Consolidated balances of global (cumulative) product supply and allocation and input-output balances are aggregate tabulations designed to ensure consistency on a national scale between product supplies and allocations; they provide schedules of domestically produced and imported supplies on a gross (material inclusive) basis and of their distribution among intermediate productive uses, and various final uses (final material consumption, fixed capital and stock investment, and exports). Finally, balances of manpower resources and utilization, and balances of fixed capital stock, are drawn up to ensure consistency between factor allocations and supplies and between production programmes and factor supplies.

Priorities and consistency

In formulating the medium-term and annual plans, the planning authorities dispose of powerful means for maintaining and enforcing the priorities, primarily in the sphere of fixed capital investment and public consumption, which were incorporated in the perspective plan. The government can (and does) decree the production of any given product, releases the productive capacity necessary for that production, allocates labour in sufficient number and quantity to the producing enterprise, provides fuel and raw material supplies in precedence over other uses, imports foreign supplies and seeks to prevent any shift in allocations to alternative uses by shaping and adapting its financial, prices, and wage policies to the planned pattern of production.

As the number of priority products or branches increases, however, the limitations on the power of the central planning agency to enforce its priorities multiply. Every high priority allocation of supplies has, by definition, stronger claims on the supply of any product or factor than alternative uses; and, consequently, once supplies are exhausted relative limitations on priority setting become of the same effect as absolute limitations. The instruments used for confronting priorities with planned or available supplies, for assuring plan priorities and for obtaining consistency between plan formulation and plan implementation are the national economic balances, already mentioned, of single products, total product supplies, manpower and capital.

Supply and allocation balances for a given plan period may, however, yield only apparent consistency between plan targets and availabilities. The supply side of product balances cannot possibly match in all its detail the planned assortment and quality of output, manpower balances cannot provide for all possible degrees of specialization and skill, nor can balances of fixed capital include every single item of equipment. Similarly, the allocation side of the balances does not specify all requirements. The dichotomy between the apparent and real concordance of product or factor balances tends to be accentuated in the annual compartments of a medium-term plan. What might be termed the " quality gap " is liable to widen, especially in the early phases of national economic planning.

The customary willingness of planning authorities in eastern Europe to consider that the total supply of any product or factor entering a balance completely corresponds to requirements and to assume a uniform relationship between investment in one period and additional output in the subsequent period further magnifies the contradiction between the apparent consistency and actual inconsistency between the two sides of the balances. This tendency is usually reflected in an abnormally high rate of stock accumulation and, in particular, in an inflation of the stock of uncompleted investment projects.

(b) Formulating plans of national income, investment and consumption

When the macro-economic decisions of the perspective plan are translated into target rates and proportions for the first and final (and sometimes intermediate) years of the medium-term plan, the relative importance of the gestation period of new investment, of capital retirement, and of those factors which accelerate the growth of national income independently of investment, is greater than in formulating the perspective plan. In the short time-horizon of the medium-term plan such factors include increased capacity utilization and current additions to capacity resulting from earlier investment. And the consumer will be concerned primarily with the increase of consumption — that is, with the immediate, not the strategic, consequences of the choice of a long-term investment ratio.

Planning income expansion and investment

The strategic objective of the highest possible growth of national income is plainly in conflict, in the relatively short period of the medium-term plan, with the objective of raising individual and social consumption. In the medium and short term a rise in the investment ratio by definition reduces the consumption ratio; and no general solution appears to have been found to the problem of determining the relation between increases of national income, investment and consumption in the medium term. The traditional doctrine expressed in the Fundamental Economic Law of Socialism [47] does not specify any time-horizon and postulates an apparent equality of status between consumption and investment. Planning experience in eastern Europe during the last decade indicates that the lower limit to the consumption ratio (and the upper limit to the investment ratio) is dictated by the need not to allow even a temporary decline of real per capita earnings. In an expanding economy, however, a more positive relationship obtains between the expansion of investment and consumption in the medium and short term, too, since an income incentive for rising skill and effort (productivity) must be provided.

The financing of a growing volume of investment, in conditions of economic expansion, does not, as a rule, pose any major difficulty for the planners since the state has control over the major part of profits, can count on growing budgetary revenue from turnover taxes which increases *pari passu* with the expansion of retail trade, and can regulate both money wages and retail prices by means of its monopoly powers over the labour market and retail trade.

The planned expansion of national income throughout the period of the medium-term plan requires that for the final year not only the level but also the pattern of distribution of national income have to be established. The material input requirements to produce that final output technically determine the volume and pattern of intermediate output; and, in turn, the additional capacity required to produce that final and intermediate output determines the pattern and timing of productive investment. The decision reached on the planned level and composition of output in the final plan year requires that corresponding choices must be made for each year of the medium-term plan, since the former decision and its investment requirements necessarily affect the volume and structure of output, and its allocation in the preceding years of the plan period.

The co-ordination of the investment requirements of the planned output pattern and the scope for expanding capacity (after discounting capacity reserves) normally result in adjustments to both the output and investment programmes. The latter is revised in its branch and major-project detail by means of input-output and capital/output techniques or by more straightforward methods; but, no matter which means are employed, the process of co-ordination encompasses the project detail of not only output and investment programmes but also of that for the commissioning of new capacities.

Two main stages can be distinguished in the formulation of the medium-term investment plan: the financial programme (see section 5 below) and the planning of material supplies. The latter includes the organization of construction activity, engineering production, and imports of investment goods. The complex production plans for the construction and engineering industries — the two key sectors of investment-goods output — and the machinery and equipment section of the import plan incorporate the schedules of capital construction and of machinery and equipment supply derived from the total, branchwise, and project detail of the investment plan.

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[47] See also Chapter II, section 3.

The construction component of the investment plan is the most important part of the medium-term plan of the construction industry. The capacity of the industry, which also has to provide the materials needed for capital repairs and maintenance, is established in terms of capital, labour, and the supply of building materials. Notwithstanding the increasing role of technical progress and labour-saving machinery in formulating the plan of the construction industry, its claims on labour supply in the framework of the national manpower plan, and especially for highly skilled labour, are of central importance.

When the production and import targets for building machinery and equipment for the whole medium-term plan period and its final year have been established, they are transmitted to the executive agencies for implementation.

Formulating medium-term plans for social and personal consumption

The planning of consumption in the medium-term plan takes as its point of departure the determination of the national accounting aggregate of the total consumption fund for the final year of the period — i.e. the total allocation to consumption in the national income balance of that year; it consists of the total supply of goods and services available for collective and personal consumption, a value which is obtained from an assessment of national consumption requirements (in addition to investment requirements) and productive availabilities.

Demographic projections are used to assess the changes likely to occur during the plan period in the size and composition of the total and gainfully occupied population, and preliminary estimates of consumption requirements are confronted with the capacity of the consumer-goods industry; these are supplemented by per capita indicators of the commodity composition of consumption in the base period to yield information on present and future standards of consumption by main categories of the population.

Of the various factors affecting the planners' choice of the path of development of the level and pattern of consumption between the base year and the final year of the medium-term plan, the most important is the postulated growth of total consumption over the period, and the changes in per capita consumption which the antecedent choice implies. Closely related decisions then have to be taken concerning the planned changes in the aggregate and per capita real income and consumption of the main groups of consumers, the planned changes in the commodity pattern of consumption, and the planned changes in the level and composition of output of agriculture and of consumer-good (mainly food and light) industries.

The plan of retail-trade turnover is the principal means used for obtaining concordance between consumers' requirements and output of consumers' goods. Via this plan consumers' demand schedules are transmitted to producers and provision is made for providing the consumer with unprocessed and processed foodstuffs, clothing, durable goods and other commodities. The elements of consumption missing from this plan are, therefore, independent (i.e. self-produced) consumption, free market supplies (mainly foodstuffs), and goods distributed through the public and social services network (catering and other commercial services provided by retail-trade organizations do, however, figure in the retail trade plan).

The commodity schedules of the retail turnover plan are drawn up by the planning authorities on the basis of norms and normatives of per capita consumption (with allowance made for independent consumption and free market sales) which are established by a variety of methods (such as extrapolation, international comparisons, income elasticity calculations, etc.) and which reflect the antecedent planning decisions taken concerning consumption and income policies and the planners' assessment of the productive capacity for consumers' goods.

(c) **Formulating medium-term sectoral plans**

Medium-term plans for the productive sectors are drawn up for industry, agriculture and transport by branches, by " addresses " (i.e. by executive agencies), and — in most countries — by regions. Branch plans are complex and comprehensive, including provisions for output, manpower supply, investment (with major projects identified), requirements of " key " raw materials, both physical and value indicators of the various end-uses, and plans for cost reduction and profits. A separate section of the medium-term plan is devoted to foreign trade.

Industrial planning

The unique importance of the industrial and construction plans for the whole process of production and resource allocation is plain. The medium-term industrial plans establish a direct link between production and allocation, on the one hand, and between investment and consumption, on the other, by means of the system of balances. The investment plans depend directly on the production plans of the engineering and construction industries; similarly, the consumption plans are largely a function of those for the light and food industries.

Since economic development is conceived in eastern Europe as being primarily a process of industrialization, industrial planning seeks to achieve a consonance between this process and the accepted theory summarized in Chapter II. This requires the observance of certain basic proportions within industry between (*a*) producer-goods industries and consumer-goods industries, and — in detail — between (*b*) electric power production and total industrial production; (*c*) between basic and processing industries; (*d*) between capital-goods and consumer-goods industries; and (*e*) between total or heavy industrial output and the output of engineering industries; and (*f*) between total output or the output of processing industries and consumer-goods industries. Determinate proportions between industrial production and the output of construction have also to be established.

The desired structural transformation of industry adumbrated in the perspective plans determines the strategic links of the industrial production process. It is the sectors specified as the strategic links of the production process which are regarded as high priority sectors and which hence have precedence in the allocation of materials, manpower and investment resources. In pursuing this basic approach, however, account has to be taken of the interrelationships and cumulative effects which are reflected in the various national product and factor balances, and it is only once this has been done that production plans are elaborated for industrial sectors, branches and enterprises. In short, the general industrial plan is, essentially, the aggregate of co-ordinated sector plans, adapted to the macro-economic framework.

The formulation of a plan for the industrial sector calls for an evaluation of gross demand (total requirements) for the sector's output and the confrontation of these requirements with the production capacity of the sector. The requirements include the provision of supplies for (*a*) maintaining and expanding production of fuels and other material inputs used within the industrial sector; and for (*b*) maintaining and expanding production of fuels and other material inputs used by other sectors (agriculture, transport, etc.). The industrial plan also has to provide for supplying machinery and equipment for new investments and replacements; for the material supplies required by private and social consumption; and it has to make provision for exports and for local and central stock accumulation.

Industry's productive capacity is being assessed in terms of capital, labour, fuel and raw materials availabilities and in relation to the composition of the required output. Industry's own requirements for investment resources, labour and materials have to be reconciled, by means of the national investment, manpower and raw-material-supply plans, with competing claims from other sectors.

The system of indicators used in the medium-term industrial plan encompasses production (by volume and by product mix), sales (by sectors of allocation), and material input; employment, productivity and wages; technical progress, investment and capital repairs, utilization of and additions to capacity; and cost reduction and profits.[48]

The output and material supply sections of the plans are generally drawn up in both physical and value terms. The most general production indicator is that of the gross value of production.[49] It is this indicator which serves as the unit of measurement for production and allocations, and which provides a basis for formulating value indicators of labour productivity and the cost and profit plans.

The planned rate of introduction of new techniques — mechanization, electrification, automation, etc. — has a considerable influence on the content of the plan of industrial production. The programme of techniques is closely related to the plan for investment and capital repairs, and modifies appreciably the pattern and quality of output, material input-output relationships, labour productivity (and hence manpower plans), the technical coefficients of capacity utilization; and — via all these channels — the cost and profit plans.

Agricultural planning

Agricultural planning has peculiarities originating in the pattern of ownership in this sector and in the characteristics of agricultural production.

First, the institutional framework of agricultural production in eastern Europe differs from that in other economic sectors because a major part of the agricultural sector is in co-operative ownership — except in Poland, where private ownership prevails. Hence, in planning agricultural production, the planning agencies are obliged to take into account the fact that production and supply targets cannot (or can only partly) be assigned to producers in the form of obligatory directives; recourse must be had to other policy instruments.

Secondly, agricultural production is more exposed than other sectors to the influence of natural factors (primarily to the vagaries of weather). In planning the level and the commodity structure of agricultural output the impact of these natural factors has to be discounted in part by the choice of a base period of several years even for the annual plans. Uncertainty also creates a need for holding substantial stocks of agricultural produce.

As in the construction of the industrial plan, agricultural planning takes as its point of departure an evaluation of gross demand (total requirements) for agricultural produce and the confrontation and adjustment of its results to the productive capacity of the sector. The agricultural plan on its production side has to provide supplies for the productive consumption (material inputs) of agriculture itself and of manufacturing industries (other than food processing); for consumption of foodstuffs (processed and unprocessed); for the accumulation of stocks and reserves; and for export.

The requirements for the agricultural sector's productive consumption are evaluated on the basis of a series of norms establishing levels of inputs — e.g. of seeds per unit of area, or of fodder per animal. The raw material requirements of the light industries (wool, leather, etc.) depend on their production plans and on import possibilities; the requirements of branches of secondary importance may be catered for by supplies of by-products of a major branch of production.

Estimates of the most important element of demand for agricultural products — namely, that for unprocessed and processed food — are prepared on the basis of demographic projections and planned per capita consumption of food. The latter plans are drawn up on indicators expressed in physical units, of nutritive value, or even the form of estimates of consumers' expenditure on food, or a combination of these indicators. A number of procedures are used for preparing estimates of future food consumption, and include the extrapolation of trends in food consumption in earlier periods; the analysis of food consumption at various income levels, primarily on the basis of family budget data; the establishment of biologically necessary norms of consumption; and the analysis of data from countries with higher levels of food consumption. The results of these methods are then brought into line with the planned development of incomes and with anticipated changes in retail prices.

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[48] The main indicators normally drawn up for the medium-term industrial plan, either on instructions or for information, are as follows: gross value of production; quantity of production of key-products; value of sales to foreign trade (export) and domestic trading enterprises; quantity of key materials supplied; share of rising productivity in the increase of total ouput; gross daily output per worker; total authorized wage-fund; average wage of workers and office workers; investment allocation for use by the enterprises; and planned percentage rate of cost reduction.

The series of indicators is sometimes much more extensive including, for example, a detailed list of quantitative output targets, a detailed material supply plan, a number of technical indicators of material consumption, physical indicators of labour productivity, etc. For the function of indicators in plan implementation, see Chapter VI, section 4.

[49] For definition, see Chapter VI, section 4.

The production possibilities of the agricultural sector are governed by three main factors: natural conditions, the fixed capital stock and availability of material inputs, and the size and composition of the labour force. As technical progress proceeds, the importance of fixed capital and of material inputs of industrial origin tends to grow, so that the output plans of the agricultural sector are increasingly closely linked to those of the supplies which can be provided by the industrial sector. Consequently, there is careful co-ordination of plans of agricultural input and output, on the one hand, and those of fixed capital supply, technical services and the supply of materials of industrial origin on the other (that is to say, primarily the machinery and equipment balances and the industrial materials balances).

The manpower plan for the agricultural sector is also closely related to that for the economy as a whole, since the manpower resources and requirements of the agricultural sector are a major element of the consolidated national manpower balance, the national balance of additional labour resources and requirements, and the national plan for productivity.

The output plan of the agricultural sector is the end product of these numerous exercises and is drawn up in indicators and balances defined in either physical or value terms (physical indicators and balances being more common in agricultural planning than in that for most other sectors of the economy, given the considerable difficulties involved in measuring the impact of the numerous factors of uncertainty in value terms). The plans for output and commodity (sold) production are usually expressed in physical terms for the following main items: total sown area and its distribution by main crops; yields (barn yield) per unit of area; total output and commodity output by main crops; quantity of output per 100 hectares of area of the main crops (primarily for international comparisons of the structure of production); number and composition of livestock; livestock density per 100 hectares (in units and standardized units); livestock yields per animal; output of slaughter animals and of other animal products; commodity output of main animal products; output of main animal products per 100 hectares. A plan of agricultural mechanization, and output and commodity balances for main products, are also prepared.

Most of these indicators are elaborated for plan-formulation purposes only, and are not issued as obligatory instructions, which are transmitted to the state sector alone — state farms receiving directives concerning commodity (sold) output and cost and profit levels. Instructions are also prepared and transmitted specifying the quantity of produce which they have to purchase. The volume composition of co-operative production is, of course, estimated in the agricultural plan, but is the object of indirect economic instruments, including state support schemes and price control.

Foreign-trade planning

The incorporation of foreign trade in the national medium-term plan presents a number of complicated problems, among which two are of fundamental importance. The first is that of adjusting exports and imports to the stream of supply originating in domestic production so as to assure a pattern of final and intermediary supplies which meets the requirements of the plan. The second is that of raising the productivity of capital and labour by earning foreign exchange by means of comparatively low-cost domestic production (low-cost in the capital inclusive sense) and of using these earnings to import commodities which, if produced domestically, would be of high cost.

Consequently, the foreign-trade section of the medium-term plan has to assure a pattern of output and trade matching the requirements of capital and output expansion foreseen in the plan, and to obtain a level and composition of exports and imports (which assures maximum future returns to capital and labour on a national scale).

The import programme of the medium-term foreign-trade plan, covering mainly imports of machinery and equipment and of fuel and raw materials, is for the most part determined by the investment and production plans. This technically determined part is, however, liable to change either the investment or production plans, as surpluses or deficits occur in the course of their implementation. The " indeterminate " part of the import programme (consisting of foodstuffs and consumer goods) is also drawn up in advance of the plan period in accordance partly with technical considerations, but is subject to more frequent and far-reaching revision than the programmes for imports of materials and equipment.

The medium-term export schedules are established with reference to criteria of export efficiency, their purpose being to yield maximum earning of the required foreign exchange from the export of commodities which can be produced with existing capacity. Additions to the capacity of export industries are planned as a rule only in those branches working in the framework of medium-term trade agreements, mainly with CMEA countries.

At the first stage of formulating the medium-term foreign trade plan, the central planning agency has to review and analyse the volume and commodity structure of imports and exports in the base period, by classes of investment goods, raw materials and consumers' goods and by major commodities, in relation to the plans for domestic production, investment and consumption; it is only thereafter that they can proceed to estimating the efficiency of foreign trade in terms of comparative costs and to assessing the effects on efficiency of trading methods, of payments arrangements, and of price and cost relationships.

5. ECONOMIC BALANCES AS A MEANS OF OBTAINING CONSISTENCY

In plan formulation the principal method used in eastern Europe for obtaining consistency between plan requirements and available resources is that of balances showing, on a national scale, both requirements and availabilities in terms of value, of material goods, or of the labour force. This system of national economic balances, which links the material and value relationships of the plans and encompasses the whole of the development process, consists of four main types of national balance: (i) national income balances; (ii) material balances; (iii) global social product balances, and (iv) consolidated factor (manpower and fixed capital) balances.

The comprehensiveness of the system of national economic balances has important implications for the whole process of plan formulation: the balances comprise all sectors of the economy, whether in state ownership or not, and are used, *inter alia*, for harmonizing the material, manpower and financial aspects of the plans.

In the initial phase of plan formulation the balances are used for comparing the implications of different variants of the plan and for choosing one of them. Subsequently they serve as a means of co-ordinating targets when detailed plans are elaborated, by permitting the control of the internal consistency of detailed calculations, and of the correctness of the initial assumptions.[50]

(a) National income balances

Balances of planned and realized national income by origin and destination have been used in both medium-term and annual planning in the Soviet Union since the formulation of the first-year plan. In western terminology they can be defined as balances of net domestic (material) product showing, on the *income (or product) side*, the net product (gross product *less* material inputs and amortization) of the following sectors: industry; construction; agriculture; transport (including telecommunications); domestic trade; foreign trade; and other branches of material product. The *allocation side* of the balances shows the following major items: fixed capital accumulation (investment); stock accumulation; personal consumption (including the material content of services); public consumption; and the surplus of exports (+) or imports (—). Since the balance is drawn at the level of net *domestic* (material) product, with the total on the allocation side including the value of any import surplus that occurs, the sum-total of domestic end-uses may exceed that of net domestic (material) product.

There is no direct link between the detailed items on the two sides of the national income balance. Net domestic product as a national aggregate is equal to cumulative gross product *less* material inputs and amortization irrespective of whether product is calculated as the total income realized by productive sectors or as total product from which is deducted for each productive sector amortization requirements and material input supplied by other sectors. These calculations by sectors yield, on the product side, the total income (net product) realized by each sector (industry, construction, etc.) which can be obtained either from cumulative gross product by deducting material inputs and amortization or by the sum of wages, wage tax and social insurance receipts, other income collected on non-material cost accounts and the net residual (profit) income of state, co-operative and private enterprises. The balances are usually calculated at tax inclusive (users') prices of the current plan period (mostly also for backward and forward looking comparisons between two subsequent years or between two subsequent periods of several years).

Although only the totals on each side of the balances of national income by origin and destination are directly comparable, they are very useful in the analysis of the base period and for taking decisions concerning the main macro-economic magnitudes of the annual, medium-term and perspective plans. The following aggregates and relationships of the balances are especially important for plan formulation and control:

(i) the total value of net domestic material product (representing, at given prices, both income realized by productive sectors and product availabilities for final use); and annual changes in percentages in value terms;

(ii) the allocation of net domestic (material) product of a given year, and annual changes, to investment (primarily fixed capital investment) and consumption and their main constituents; percentage distribution of product and its increment between the main items of allocation; percentage changes in these items between years; allocation of net exports and contribution from net imports to domestically available product;

(iii) the contribution, in value terms and percentage shares, of the realized income — or net product — of productive sectors to the total value of net domestic (material) product in a given year (including the formally negative contribution of the foreign-trade sector from the recalculation at domestic prices of the value at " foreign " prices of the export or import surplus); and the change in percentage and value terms in the net product (realized income) of productive sectors.

Magnitudes (i) and (ii) — and the incremental capital-output ratios (ICORs) implied by them — are indispensable in plan formulation for assessing the possibilities both of expanding net domestic (material) product and of determining the allocation between investment and consumption. And the magnitude referred to under (iii) is necessary for evaluating the productive performance of the main productive sectors in terms of net product. The detailed elaboration of plans for the expansion of output relationships between the structure of output, on the one hand, and the pattern of investment and consumption, on the other, also has to draw on the more comprehensive material incorporated in the "consolidated balance of product supplies and allocations " and in the "input-output balance" of cumulative gross national product. Similarly, detailed financial planning requires more information than is provided by the magnitudes referred to under (iii) and depends on such comprehensive balances as that of the distribution and redistribution of national income, the state budget, the national credit balance, the balance of the money income and expenditure of the population, and the national cash balance (most of which are drawn up on an annual basis — see also below).

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[50] When the plan is operational, national economic balances are prepared concerning its expected fulfilment and, after the completion of the plan period, concerning its actual fulfilment. The former set of balances serves as a basis for drawing up the plan for the next period.

(b) Material balances

Material balances, which provide a tabular confrontation in quantitative terms of supplies of and requirements for single products and groups of commodities, are an extensively used instrument of plan formulation in all centrally planned economies; loosely linked to national income and investment plans, they formed the core of medium-term and annual plans throughout eastern Europe until the mid-1950s. Since then, material balances have tended to be more closely integrated into the framework of macro-economic balances described elsewhere in this chapter.

Material balances may be grouped in three main classes according to the economic destination — further processing, fixed capital investment or consumption — of the products for which they are drawn up:

material input balances, showing the current requirements for maintaining and expanding turnover;

machinery and equipment balances, used in planning the extension and replacement of the fixed capital stock;

commodity balances, comprising the production and allocation of consumers' goods.

Material input balances

Material input balances — the most common in form — show, on the supply side, quantities available of the product in question from output, imports, stock reduction, reserves and other sources (including the utilization of scrap materials). On the allocation side they include the quantities required for production by various sectors and branches, for final consumption, exports, stock accumulation and reserves. These balances are generally prepared in physical units, on the basis of material consumption (utilization) norms.

For a number of important domestically produced and imported materials, material balances covering the whole economy are prepared, electric power, the principal minerals, ferrous and non-ferrous metals and chemicals being considered fundamental. In recent years the number of balances elaborated by the central planning agencies in eastern Europe has ranged from 100 in Albania and 250-300 in Hungary to 500 in Bulgaria, 670 in eastern Germany, 760 in the Soviet Union and 900 in Czechoslovakia. The central supply agencies prepare still more — with as many as 1,500 balances in Poland (including those of the State Planning Commission), 2,600 in eastern Germany and 14,000 in the Soviet Union. Besides their usefulness in revealing current or prospective shortages in the supply of certain materials, the material balances are a valuable adjunct in the elaboration and analysis of the comprehensive value balances of the national economy such as the balances of national income or global social product.

Machinery and equipment balances

Machinery and equipment balances are drawn up for the most important centrally administered types of machinery and equipment (e.g. machine tools, boilers, tractors, rolling stock, building machinery, etc.). On the supply side these balances show domestic production and imports, the allocation side specifying domestic end-uses and export requirements. The schedules of machinery requirements submitted by investors (enterprises or administrations) form the basis for assessing domestic end-uses. The enterprises define their requirements in both value and physical terms specifying precisely the types of machinery required and distinguishing domestic from imported machinery. The requirements of enterprises for machinery supplies are aggregated by the intermediate executive agencies (ministries, regional councils, etc.), which rule on the validity of the requirements and then forward them to the central planning agency, with which the final decision rests.

The investment and technical progress plans of enterprises are expressed in their machinery and equipment balances, although there is frequently a difference between the phasing of machinery and equipment requirements as submitted by enterprises and that of the investment allocated to them. Enterprises often have to submit schedules of their machinery — and, especially, imported machinery — requirements before their investment allotments have been approved, and consequently not infrequently inflate their machinery requirements.[51]

Commodity balances

Commodity balances have the same structure as other material balances, and show the supply and allocation (in quantitative terms) of consumers' goods. A large number of all commodity balances are for commodities of agricultural origin, the point of departure for their preparation being balances of agricultural output. These latter balances show, on the one hand, total available domestic supplies — e.g. of wheat, potatoes, milk, etc. — and, on the other, farm consumption and commodity (sold) production (a separate balance within this item showing quantities to be delivered to the state). The commodity balances show, on the basis of these magnitudes, distribution to industrial processing, direct sales, exports, accumulation of stocks and reserves, etc. The analysis of these two sets of balances allows the assessment of export availabilities and import requirements of various food products, and of anticipated sales turnover on the free market.

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[51] In fact, without an exact prior determination of investment allocations, requirements for machinery and equipment cannot be precisely established, and without a precise assessment of these requirements investment and technical development programmes are unfounded.

(c) Global social product balances

The balance of global social product includes, on the supply side, global output and imports and, on the allocation side, final and intermediate domestic uses, and exports. The flows recorded on each side are expressed at users' prices. The supplies originating from domestic production are drawn up in sectoral detail corresponding to that of the national income balance. A similar breakdown is shown on the allocation side. Intermediate products originating from domestic production, i.e. material inputs or the " reproduction fund ", are therefore allocated to the sectors using these products. The final domestic uses are shown by delivering sectors as well as by the major categories featuring on the allocation side of the national income balance.

It can be said that the balance of global social product results from the application of the methods of material balancing to the major commodity flows of the economy as a whole. In fact, the detailed items on the two sides of the balance are closely inter-related; in particular, the information provided permits the analysis of the production process by relating material input to global output. On the other hand, it differs significantly from the national income balance, which focusses attention on the income created in the production process and on the allocation of available resources to final domestic uses. The difference in the purposes of the two types of balances appears also from the fact that exports and imports are shown separately in the global product balance, while it is their net values which feature in the national income balance.

In the centrally planned economies the enterprise is used as the statistical unit for preparing the statistics on the production and allocation of global output. The choice of the enterprise as the statistical basis is dictated by the importance of plan formulation and implementation at that level, as demonstrated by the indicators of input and output established by the central authorities for the operation of individual enterprises (see the preceding section). On the other hand, the use of the enterprise as the statistical unit results in certain statistical inconveniences. Thus, this practice may make it difficult to devise classifications by industrial branches which are homogeneous with respect to output. Moreover, the input/output relationships derived from the balances may be affected by institutional changes influencing the extent to which intermediate products are produced by an enterprise for its own use or supplied by another enterprise. However, it would appear that, in a centrally planned economy, these possible shortcomings do not outweigh the advantages of ensuring coincidence between the statistical unit and the unit used for planning purposes.

Balances of cumulative (gross) national product and its allocation are used extensively in eastern Europe in plan formulation and control in annual as well as medium-term and perspective planning. They are regularly drawn up in both their traditional and their refined variants, namely: (*a*) the consolidated balance of product supplies and allocations, in a double-entry arrangement (see Table 1); and (*b*) the input-output or inter-sectoral balance, in a " chessboard " arrangement (see Table 2).

The two variants, notwithstanding their different arrangements show the same magnitudes for very many items, including, *inter alia*, the following major divisions:

total material inputs (the material component of productive consumption or the reproduction fund) from production and imports as national aggregates and in available sectoral and branchwise detail (shown in column P^u of the double-entry balance and in column p of the ^{m} chessboard balance, respectively);

final (material) consumption, capital accumulation and exports from domestic production and imports (excluding imports for re-export) as national aggregates and in available sectoral and branchwise detail $(C_I^u + C_P^u + C_S^u, I_T^u + I_R^u$, and X^u in the double-entry balance and the corresponding items under Y in the chessboard balance).

An important difference between the two schemes, however, is in their treatment of amortization: in the double-entry variant it is shown in parallel with material inputs as a constituent of productive consumption (the P_a^u constituent), whereas the chessboard variant shows amortization as an element of final use (under *Y*) in the combined category of product allocated to fixed capital investment and capital repairs.[52]

In sum, the principal distinction between the balances of national income and those of global social product balance consists in the exclusion of intermediate output from the former and its inclusion in the latter. Similarly, the main difference between the consolidated balance of product supplies and allocations, on the one hand, and input-output balances, on the other, originates in the disparate treatment of intermediate output. The consolidated balance shows only the totals of material inputs originating in each sector and branch specified in its rows, whereas the input-output balance shows all combinations of inter-sectoral supply and allocation connexions, and hence permits the application of matrix algebra.

Consolidated balances of product supplies and allocations

A consolidated balance of cumulative (gross) product supplies and allocations was first drawn up in the Soviet Union for use in the formulation of the Fifth Five-year Plan (1951-1955) and shortly thereafter such balances were also prepared in other eastern European countries. On the supply side, the consolidated balances are constructed first at producers' (net) prices and then, by adding turnover taxes and deducting price subsidies, at users'

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[52] Another difference between the two variants of the balance is that the consolidated balance shows, on its supply side, totals and a rough division between producers' goods and consumers' goods at producer prices $(S^n = S_A^n + S_B^n)$; it also shows the margin between the totals at consumers' prices and at producers' prices $(S^u = S^n)$ as the difference obtained by deducting the amounts of price subsidy from total turnover-tax revenue $(t - e)$. The input-output balance, on the other hand, includes a varying number of rows in its outer frame which permit an assessment of the net income (wages, taxes, profits, etc. *and* amortization) that originates in each sector of production appearing in the columns of the balance (1, 2, . . . , *n*).

TABLE 1

Consolidated balance of gross (cumulative) product supplies and allocations

	Supplies					Allocations						
	At producer prices			Turnover taxes *minus* price subsidies	Total at consumer prices	Productive consumption (reproduction fund)		Final material consumption	Capital accumulation	Exports	Material losses and damages	Total at consumer prices
	Department		Total									
	One	Two				Materials	Amortization					
	S_A^n	S_B^n	S^n	$t-e$	S^u	P_m^u	P_a^u	$C_I^u+C_P^u+C_S^u$	$I_F^u+I_T^u+I_R^u$	X^u	W^u	S^u
1. *Production :*												
(*a*) Industry												
(*b*) Construction												
(*c*) Agriculture												
(*d*) Transports												
(*e*) Trade												
(*f*) Procurements . . .												
(*g*) Other												
Total domestic output (*a*) to (*g*). . . .												
of which :												
State sector												
Co-operative sector . . .												
Private sector												
2. *Imports*												
3. *Total gross disposable product* [1 + 2]												

Sources : *Népgazdasági tervezés*, Volume I, 1962, page 105; and *Statisztikai szemle*, No. 2, 1952, page 126.

NOTES : S_A^n = supply of producer goods at producer (net) prices.

S_B^n = supply of consumer goods at producer (net) prices.

$S^n = S_A^n + S_B^n$

t = turnover taxes.

e = price subsidies (equalization).

S^u = total supplies at users' (consumer) prices ($S^n + t - e$).

P_m^u = consumption (inputs) of materials in productive sectors at users' prices.

P_a^u = amortization in kind in productive sectors at users' prices.

C_I^u = personal (individual) consumption at users' (consumer) prices.

C_P^u = social (public) consumption at users' (consumer) prices.

C_S^u = consumption of materials in " services " sector at users' prices.

I_F^u = fixed capital investment at users' prices.

I_T^u = stock (turnover fund) investment at users' prices.

I_R^u = investment in state reserve at users' prices.

X^u = exports at users' (domestic) prices.

W^u = material damages and losses from current production at users prices.

(consumer) prices (see Table 1). The gross value of production, at producers' (net) prices, of industry and construction (excluding the negligible private sector), is derived from the cost and profit budgets of state and co-operative enterprises; the gross value of agricultural production is estimated by applying unified producers' prices to the quantity of output of main sectors. These unified prices are obtained by weighting effective sales prices according to types of sales or use; for on-farm consumption the weighted average of retail-trade and free-market prices is used. For the transport sector, it is income from rates, fares and fees which is used; in retail trade, the margin composed of material costs, wages and profits; and in the import sector, total value at domestic producers' prices. In the final adjustment to gross production values at users' (consumer) prices — primarily in the industrial, retail trade and import sector — financial accounts are used.

On the allocation side, the consolidated balance, which is in users' (consumer) prices, productive consumption is calculated separately from product allocations for final uses. In deriving the material component of productive consumption (P^u_m), the calculations for the industrial and construction sectors are based primarily, as mentioned above, on the production cost and profit budgets of state and co-operative enterprises. The calculations for the agricultural sector and its main branches are carried out item by item, purchased materials as well as self-produced materials being considered. The assessment of material inputs in the transport, retail trade and other sectors is again based primarily on production costs and profit budgets, but for foreign trade material costs financed from price equilization are also taken into account.

The degree of cumulation in the calculations of productive consumption on the allocation side of the consolidated balance has to correspond to the degree of cumulation on its supply side, so that product available for final use can be obtained as a residual. Amortization (P^u_a) has, therefore, in accordance with the calculation of the material part of productive consumption, to be based also on enterprise accounts — with the exception of the agricultural sector, where reliance on aggregative calculations can hardly be avoided in estimating the fixed capital balance.

Input-output balances

Input-output balances of global social product (described as balances of intra-industry relationships) were prepared in the Soviet Union for the years 1955, 1957 and 1959, and such balances have been drawn up in eastern Germany, Hungary, Poland and Rumania. *Ex-post* tables have been used in all these countries to provide analytical data for plan formulation, but the use of *ex-ante* tables has so far been confined to testing the consistency of plans elaborated by traditional procedures; *ex-ante* tables were used to verify the 1965 annual plan for Hungary and the 1962 annual plans in eastern Germany and the Soviet Union.

A simplified scheme of these input-output or intersectoral balances can be represented as follows:

TABLE 2

Simplified scheme of intersectoral balances

Allocations		Mining	Electric energy		Tele-communications	Productive consumption	Final uses	Gross supplies
Supplies		1	2	...	n	p	Y	$S = p + Y$
Mining	1	Reproduction fund (productive consumption net of amortization)						
Electric energy	2							
	⋮							
Telecommunications	n							
Domestic output	0 *							
Imports								
Total material inputs								
Amortization								
National income								
Gross supplies	s *							

The system of plan indicators and balances used in eastern Europe and described earlier in this chapter generally provides adequate information for elaborating input-output balances. The production and turnover plans provide a value for gross supplies (S^*) which equals the total gross disposable product shown in the balance of global social product. Cost plans, in turn, permit the determination of national income, amortization and material inputs. Imports can be obtained from the turnover and financial plans of the foreign trade sector by means of the material and equipment balances. These plans and balances, therefore, make it possible to derive the sum of the columns in the closed quarter of the balance (O^*), which shows the volume of material inputs received by any one sector from other domestic sectors.

By means of investment and capital repair plans, calculations concerning the consumption fund, the export delivery plan and estimates of stocks and reserves, the volume and composition of output for final uses (Y) can be determined with a reasonable degree of accuracy. By deducting this sum from gross output, productive consumption ($p = S - Y$) is obtained.

The system of plan indicators and balances, therefore, yields an accurate representation of the whole of the gross national product and its distribution between national income and reproduction fund, especially its value composition. In order to determine its material composition, however, recourse must be had to certain complementary estimates and calculations (especially in respect of the structure of the reproduction fund), some of which are described below.

The structure of material inputs can be expressed by means of input coefficients. These show the quantities of production of other sectors used by a given sector in producing a unit of output. These coefficients, in conjunction with gross output, describe the closed square of the chessboard balance: $R = M\hat{s}$. (Where: R = reproduction fund; M = matrix of input coefficients; $\hat{s}$ = diagonal matrix of the vectors of gross supplies.) The sum by sectors of input coefficients (C^*M) shows total material inputs per unit of output — i.e. the material input coefficient. The product of this coefficient and the domestic output of a sector is equal to the sum of the sector's material inputs — i.e. the column of the closed quarter $O^* = C^*M\hat{s}$. The sum of the rows of the closed quarter equals productive consumption: $p = Ms$.

As groundwork for these calculations, the matrixes of input coefficients of earlier input-output balances are usually available, but they cannot be used unchanged in formulating medium-term or perspective plans, since the former provide for changes in the level of material inputs.

For this reason, matrixes of medium-term plans are prepared in three variants: first, assuming unchanged input coefficients in relation to targets set by traditional methods; second, including modifications in accordance with planned changes of material inputs (sum of columns); or third, including changes according to planned material consumption (sum of rows).

In the consistency check of the medium-term plan, a first approximate balance between availabilities and claims submitted by different administrations is obtained by drawing up input-output balances for the last year of the plan on an administrative basis (by addresses — i.e. ministries, etc.). These are based on the "turnover" principle — that is, they show not production and uses, but deliveries and procurements — no matter whether they are consumed or added to stocks.

In the second stage the balance is shifted from an administrative to an industrial base, the division being by sectors or branches, while the turnover principle is maintained by not eliminating the effect of stock changes. Finally, the shift to a "production" pattern, which is meaningful only on an industrial breakdown, shows supplies and allocations net of stock changes: this variant reflects the structure of material-consumption in the rows of matrix, while stock changes are summed up as a separate item of final use.

The structure of material inputs implied by the intra-industrial supply and allocation plans (which, as mentioned, are derived from the turnover matrixes of administrative units-addresses) does not, however, necessarily match the material input coefficients of the cost plans, which are centrally established for each item in the column of the matrix for each consuming industry on the basis of technological considerations or mathematical calculations.

Comparison of the first and second variants shows the effects of the changes deriving from the planned reduction of material input coefficients; comparison of the first and third variants shows the results in the planned composition of final uses. Finally, comparison of the second and third variants discloses contradictions between the plans of cost reduction and final use, respectively.

The usefulness of the input-output balances of medium-term plans consists mainly in the means they provide for obtaining consistency between calculations in physical and in value terms and also for co-ordinating those parts of the product and end-use balances which cannot be expressed in physical terms. In general, then, these balances are a useful instrument for obtaining consistency between the various sections of medium-term plans elaborated by traditional methods. Their value in this connexion would be enhanced if their application were extended to the earlier stages of planning, particularly the stage of formulating variants of the medium-term plan and of elaborating its details. This would require, however, some improvement in the sectoral detail of the balance and in the detailed indicators of the components of material consumption.

So far, the best results from the use of input-output balances have been obtained in the formulation of annual plans, simply because the coefficients expressing the material inter-relationships of the various sectors do not change substantially from one year to another. The input-output balances used in annual planning are elaborated in the same way as the medium-term balances, on the basis of production, turnover and cost plans and material balances.

(d) Balances of manpower and fixed capital

The plan balances of national income and of global product — of either a partial type such as the material balances, or of an aggregate type such as the consolidated

TABLE 3

Hungarian five-year balance of manpower resources and utilization

Thousands, percentage change and percentage share (in brackets) of women

Resources	1 January 1961	31 December 1965	Changes		Utilization	1 January 1961	31 December 1965	Changes	
			Number	Per cent				Number	Per cent
1. *Population of working age*	5 091(49.1)	6 071(48.5)	140	2.4	4. *Gainfully employed*				
					(*a*) Industry	1 350(36.1)	1 496(36.6)	146	10.8
2. *Working population of pensionable age*	493(41.9)	534(39.6)	41	8.3	(*b*) Construction	241(11.6)	283(13.8)	42	17.3
					(*c*) Transport	293(17.2)	338(18.9)	45	15.4
					(*d*) Trade	306(52.1)	346(54.3)	40	13.0
					(*e*) Administration	348(50.5)	402(53.3)	54	15.7
					(*f*) Other sectors	398(31.0)	432(32.1)	34	8.5
					(*a*)-(*f*) Total outside agriculture	2 936(34.9)	3 297(36.1)	361	12.3
					of which :				
					(*a*)-(*d*) Production sectors	2 190(33.1)	2 463(34.1)	273	12.5
					(*e*)-(*f*) Other sectors	746(40.1)	834(42.3)	88	11.8
					(*g*) Agriculture	1 675(36.7)	1 603(39.3)	—72	—4.3
					(*a*)-(*g*) Total	4 611(35.6)	4 900(37.2)	289	6.3
					5. *Resources in reserve*	1 813(81.3)	1 705(78.2)	—108	—6.0
3. *Total of resources* [1 & 2]	6 424(48.5)	6 605(47.8)	181	2.8	6. *Total of resources* [4 & 5]	6 424(48.5)	6 605(47.8)	181	2.8

Source : *Népgazdasâgi tervezés*, Volume I, p. 140.

balances and the input-output balances—are the cornerstone of the balance system of central planning in eastern Europe. An important ancillary function in the assessment of production possibilities is fulfilled by the consolidated factor (manpower and fixed capital) balances: these are the means used for obtaining the consistency of the production plans with those for factor supply.

The balance of manpower resources and utilization

The function of the manpower balances is, at root, to reveal the sectoral and branch location of manpower surpluses or shortages and the means of overcoming them by assuring the equilibrium between manpower requirements and manpower resources.

The composite manpower balances are static, in that they show the manpower situation at a given point of time, and information concerning changes in the manpower situation has to be obtained by comparing the manpower balance for two or more periods. The resources side shows all manpower resources both of the active and of the non-active age groups. On the utilization side, the distribution of available manpower resources between gainfully employed and the 'reserve' population is shown, the former by branches and sectors of ownership. Manpower in the socialist sector is strictly planned, but only estimates are given for the private sector. (See Table 3.)

The balance of fixed capital stock

Balances of fixed capital stock can be prepared on both gross and net bases. The changes in the physical volume and in the use value of fixed capital are assessed on a gross basis, disregarding amortization, increases being due to completed investment and reductions to scrapping. Additional indicators in physical terms are used to assess the age distribution and technical standards of the capital stock; such indicators show, for example, the age distribution of machinery, the proportion between individual and special pieces of equipment, the capacity of boilers and their classification from the point of view of fuel utilization technique, etc. (See Table 4.)

Changes in the value of capital stock are shown by the balance of net capital stock. In compiling this balance the plan for completed investments, the amortization of the production budgets, and the plans for renewal are used. The value of fixed capital stock at the beginning of the period is increased by completed investments and is generally reduced by the sums of amortization and scrapping. This result is the value of the end-year stock.

Financial balances: the Aggregate Financial Plan and the Budget [52a]

The Government budget, the financial plans of *sovnarkhozy*, economic ministries and departments, the credit plan and the cash plan together form the basic instruments of financial planning in the Soviet Union. The accounting framework by which these plans are coordinated into a consistent whole is the "Aggregate Financial Plan". The latter is a summary statement of the sources and uses of funds of the consolidated public sector during a specified plan period. This plan is prepared in conjunction with the other plans and is used at each stage of their preparation to test their mutual consistency in order to enable the planning authorities to detect any inherent imbalances.

TABLE 4

Balance of the gross fixed capital stock in Hungary in 1960

Billion forints at prices of 1 January 1959

	Gross value on 1 January 1960	*Additions or reductions of stock*				Gross value on 31 December 1960
		Completed investment	Other additions [a]	Scrapping demolitions, etc.	Other reductions [b]	
Productive sectors:						
(*a*) Industry	134.1	14.9	0.1	2.4	0.3	146.4
(*b*) Construction	4.1	0.9	0.0	0.1	0.2	4.7
(*c*) Agriculture	77.2	7.1	7.2	5.4	7.4	78.7
(*d*) Transports	131.6	4.8	0.2	0.7	—	135.9
(*e*) Trade	12.9	1.7	—	0.2	0.2	14.2
(*f*) Other branches of material production	*0.2*	*0.0*	—	—	—	*0.2*
(*a*)-(*f*) Total	360.1	29.4	7.5	8.8	8.1	380.1
Non-productive sectors	*316.4*	*11.2*	*1.2*	*0.8*	—	*328.0*
Total	676.5	40.6	8.7	9.6	8.1	708.1

Source: *A. népgazdaság állóeszközei, 1959-1961*, pp. 18-19.

[a] Additions through transfers, purchase, regroupings of inventories, etc.

[b] Reductions from transfers, sales, regrouping of inventories ,etc.

[52a] The summary description of financial planning is drawn from a study (IBRW.1/L.6) prepared by the ECE Secretariat for the Inter-regional Workshop on Problems of Budget Clarification and Management held in Copenhagen in August/September 1964.

TABLE 5

Condensed scheme of an aggregate financial plan

Sources of finance	*Uses of finance*
Accumulation of state and co-operative enterprises and institutions	Financing of the national economy
Turnover taxes	Fixed investment
Other [a]	Capital repairs
	Increase in industrial and trade inventories
	Other [b]
Allocations for replacements and capital repairs	Financing of social services
Revenue from social security contributions	Fixed investment
Allocations for development and research work	Operational expenses
Other revenue from socialist enterprises	Pensions, stipends, etc.
Personal taxes	Financing of administration and defence
Net increase in savings bank deposits	Fixed investment
Net issue of currency	Operational expenditures
	Expenditures on state loan
	Expenditures abroad
	Stockpiling and similar reserves

[a] Including monetary accumulation of collective farms, income from foreign trade, income of institutions financed through the budget, etc.

[b] Including expenses not included as operational costs, such as expenditures on training and development work, mineralogical prospecting, etc.

The form of the Aggregate Financial Plan is shown in Table 5. On the " source " side of the account are shown all revenues accruing to the public sector, whether from the operation of enterprises, taxation of the population, increases in saving deposits, or in connexion with the currency issue. On the expenditure side are shown all uses of public funds, whether for investment, the current financing of the national economy, administration and defence, provision of services, or transfer payments to the population.

Since the expenditure of the public sector cannot exceed its resources, the Aggregate Financial Plan must balance. If, in the preliminary calculations of the Aggregate Financial Plan, discrepancies are revealed between the availability and demand for financial resources, readjustments are required in the various plans until balance is reached. Such readjustments may take the form of an increase in the revenue of the public sector or a reduction in investment and other components of non-consumption expenditure. Since the monetary accumulation of enterprises partly depends on production costs, a decrease in the latter may also help to balance public revenue and expenditure. Such a decrease can be achieved by a reduction of material input per unit of output or a reduction in wages in relation to productivity; sometimes a change in composition of output can have the same effect. But more direct measures for changing the distribution of income between the public sector and households may be considered. Such a change can be effected by an increase in the price level of consumer goods or personal taxation and, in exceptional cases, by changes in the currency issue. On the expenditure side, pensions, stipends and other payments to households can be reduced.

Somewhat less comprehensive than the Aggregate Financial Plan is the " Aggregate Financial Plan of the State Sector " which depicts the uses and sources of funds not of the whole public sector but only those of the state. For instance, the revenue side of this account excludes the monetary accumulation of collective farms which does not accrue to the state in the form of income taxes. Conversely, the expenditure side excludes investments financed from collective farms' own resources.

In its general structure, the Soviet state budget is not much different from the " Aggregate Financial Plan of the State Sector ". The latter includes expenditures financed from all state sources, while the budget excludes expenditures financed from income left at the disposal of enterprises. Correspondingly, the budget does not include all the profits of the enterprise sector, but only those which are centrally allocated. Nor does the budget generally include amortization allowances, utilization of which has been left to the enterprise sector. An additional difference between the state budget and the Aggregate Financial Plan is the fact that, whereas the latter must be balanced, revenue is generally planned to exceed expenditure in the budget.

6. INVESTMENT ANALYSIS

Introduction

With the constant growth and diversification of investments in the centrally planned economies, the importance of efficiency calculations increased and it became necessary to devise a general method of investment analysis which left some scope for decentralization of investment choice. Many decisions concerning the choice of techniques in investment cannot be taken by the central planner and have to be made at the executive level. Although these decisions are limited to the choice between various possible means of realizing given goals, they also influence the basic proportions of the economy as a whole. Hence, the decentralized choices have to be influenced by the central planner indirectly, so as to ensure that decisions taken at the executive level are not in conflict with governmental preferences.

The methods of comparative investment analysis described in this section relate to the choice of individual investment projects — a stage when productive targets have been established and at which the main issues to be solved are as follows:

(*a*) which technique should be chosen to meet the production targets (" final use-effects ") already established at the stage of plan formulation; and

(*b*) which investment project to choose in order to ensure an efficient choice of future foreign currency earnings (or savings). Here the notion of " final use-effect " is much broader than in the case of domestic comparisons; it admits not only choice among various techniques of production, but also among various investments in different sectors of the economy — provided they are directly linked with foreign trade.

The analysis of investment efficiency consists in comparing all the use-effects produced by the investment with total outlays of labour (i.e. investment outlays are compared with operating costs). The measurement of use-effects and outlays poses many practical problems. There are as a rule great difficulties in measuring all use-effects (direct and indirect) in the economy as a whole. In practice, there are very few cases where various alternative techniques ensure identical direct and indirect use-effects. There are also great practical difficulties in measuring precisely investment outlays and operating costs, mainly on account of the inadequacy of the existing price system. Finally, there is the problem of arriving at efficient proportions between different kinds of outlays and use-effects, taking into account the macro-economic requirements of development.

In practice, both measurable and unmeasurable elements enter the analysis at the various stages of investment planning; and all instructions concerning the methods of investment efficiency analysis in the centrally planned economies stress the need to take into account unmeasurable factors. The following description deals exclusively with the techniques of the economic calculus of investment efficiency, and does not go beyond an explanation of the principal problems and methods of investment analysis in eastern Europe. No detailed survey of national techniques is attempted.

Basic elements of investment analysis

(a) Problems of measuring the use-effects of investments

A given investment project may be expected to produce a variety of use-effects (e.g. an increase of productive capacities, foreign currency earnings, savings of manpower or material inputs, etc.). Economic analysis has to indicate which use-effect should be chosen as the basis for the subsequent calculation of investment efficiency.

Another common difficulty is that of comparing nominal productive capacity with the capacity that will be utilized in practice. The former is frequently difficult to define, because it varies according to the possible assortments that can be produced. In general, therefore, the expected degree of utilization of productive capacity is taken as the more appropriate for the analysis.

Use-effects are normally expressed, if possible, in physical terms. It is, of course, important that use-effects should be comparable in respect not only of magnitude and assortment but also of time and place. But as it is rare for all these elements (magnitude, time, place) to be fully comparable, techniques have to be devised which make comparison possible. This is achieved by introducing the notion of " similar use-effects "; by comparing various assortments in value terms or in equivalent natural units; by introducing substitutes; by comparing increases in productive capacities with savings of material inputs; and, finally, by expressing different use-effects in terms of foreign currency. Still, all these methods of enlarging the comparability of use-effects do not alter the main basic principle — namely, that only identical use-effects are comparable.

(b) Problems of measuring investment outlays

Two kinds of investment outlays are distinguished: *direct* outlays connected with the realization of a given investment, and *indirect* outlays which may not be borne directly by the investor but which the investment project in question necessitates in other sectors of the economy. It is the evaluation of such indirect outlays which can give rise to great practical difficulties, in the resolution of which three broad approaches may be followed. First, there is the input-output method, which allows all direct and indirect investment outlays to be taken into account. This method is theoretically the most satisfactory but, owing to difficulties in its practical application, it is still in the experimental stage. Second, there is the traditional method of assessing, by working backwards step by step, all the consecutive investment needs in sectors directly related to the project under consideration. Thus, the increased consumption of raw materials is expressed in terms of the investment outlays necessary to expend the capacity of raw-material producing sectors (unless, of course, they are already operating at less than full capacity). Similarly, the induced increase in energy consumption is translated into terms of the additional investment required in the energy branch; and increased manpower requirements are translated into terms of investment outlays on housing. In the same way, related investment outlays in road building, rail transportation, etc. and indirect economic losses caused by the investment project are brought into the reckoning. It is, of course, impossible to evaluate each and every consequential investment outlay, but the most important of them can in practice be assessed reasonably accurately. The third method consists in assessing raw material requirements in foreign currency prices and thus, by assuming increased imports, removing the need to estimate investment outlays in raw-material producing sectors. Foreign currency prices are then calculated at a rate expressing the cost of earning a unit of foreign currency in export sectors.

Another difficulty is the assessment of indirect outlays borne by users. Differences of quality, durability, weight, etc. occur within the category of the "same" product. These differences are not usually reflected in the domestic price structure and must therefore be discounted separately so as to ensure comparability.

The time factor

An essential element of investment analysis is the time factor — i.e. the problem of outlays in slow-maturing investments.[53] Shortening the investment cycle means using a part of investment funds elsewhere. The economic losses caused by the time factor are proportional to the product of immobilized investment resources during the period of their immobilization (i.e. up to the time when they are brought into operation). As the construction of an investment project is in principle a continuous process, the total magnitude of frozen investment outlays (Z) is the sum of partly frozen investment outlays (i_t) multiplied by the period of immobilization (beginning at time t) until construction is completed. The immobilization period is thus:

$$t_b - t$$

where t_b is the total period of construction.

As i_t denotes partial investment outlays immobilized in time t dating from the beginning of the construction period, then:

$$Z = \sum_{t=0}^{t_b} i_t\,(t_b - t)$$

If the investment project is considered as a whole, then Z may be expressed as the product of total investment outlays, I, multiplied by the average weighted period of immobilization n_z:

$$Z = I \cdot n_z$$

Thus:

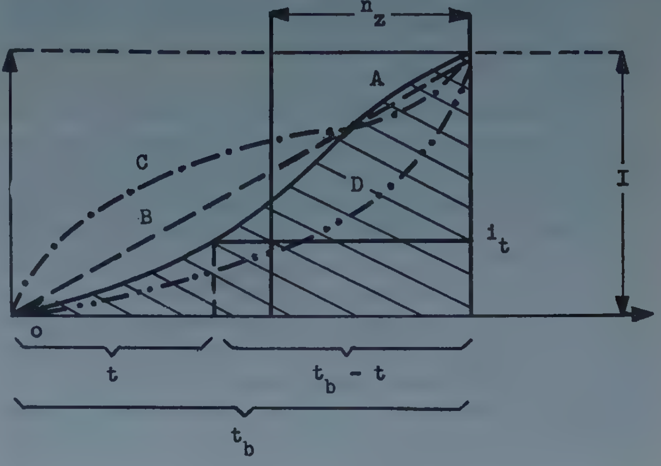
$$\sum_{t=0}^{t_b} i_t\,(t_b - t) = I \cdot n_z$$

Hence:

$$n_z = \frac{\sum_{t=0}^{t_b} i_t\,(t_b - t)}{I}$$

These relationships may be illustrated graphically in the following way:

CHART 3



The curve A shows the accumulation of investment outlays from the start to the finish of construction. The line i_t shows the part of investment outlays immobilized at time t over the period $t_b - t$. The area below the curve A is equal to:

$$Z = \sum_{t=0}^{t_b} i_t\,(t_b - t)$$

which is equivalent to the surface of the rectangle $I \cdot n_z$.

Since this approach requires that partial outlays for possibly short periods should be considered, it is assumed — in order to simplify the calculations — that annual investment outlays grow uniformly from month to month; they can thus be treated as being concentrated in the middle of every year of construction. Under this simplifying assumption the outlays immobilized in year t amount to: $i_t\,(t_b - t + 0.5)$ and the average period of immobilization of all partial outlays is:

$$n_z = \frac{\sum_{t=1}^{t_b} i_t\,(t_b - t + 0.5)}{I};$$

(in the above formula i_t and t relate to yearly periods).

It is possible to reduce Z by the following means:

(1) by shortening the construction period;

(2) by a more efficient distribution of investment outlays over time — i.e. by concentrating investment outlays in the final years. If investment outlays were distributed smoothly over time during the whole construction period, the curve A would take the form of B, and n_z would be equal to $\frac{t_b}{2}$; if investment outlays were concentrated in the first years of the construction period, then the curve A would take the form of C, and n_z would be greater than $\frac{t_b}{2}$: finally, if investment outlays were con-

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[53] This sub-section is based on *Efektywność Inwestycji*, edited by M. Rakowski, PWE, Warsaw 1963.

centrated at the end of the construction period, the curve *A* would take the form of *D* and n_z would be the most advantageous.

(3) by partly " de-freezing " the investment outlays, i.e. by bringing into operation part of the project's capacity which can function independently before the completion of the whole project.

If this partial " de-freezing " (i_t^1) approach is used, the earlier formula has to be corrected. It is usually assumed that investment outlays are " de-frozen " in proportion to the level of production reached in a given year; in other terms, it is assumed that the " de-frozen " outlays in a given year *t* are:

$$i_t^1 = I\frac{P_t}{P}$$

where: P_t — level of production reached in year *t*.
P — full productive capacity.

The total " de-frozen " outlays during the whole period of construction are:

$$\sum_{t=1}^{t_b} i_t^1$$

and the actual period of immobilization, after deducting the " de-freezing period " is:

$$n_z = \frac{\sum_{t=1}^{t_b} i_t\,(t_b - t + 0.5) - i_t^1}{I}$$

(c) Problems of measuring operating costs

In addition to use-effects and investment outlays, operating costs are the third basic factor entering investment analysis.

The main difficulty encountered in measuring such costs is the need to take into account not current but *future* costs which will be seen in the course of a period of 15-20 years. It is difficult to determine with any accuracy future expected relationships between labour productivity in various sectors and, hence, the value to be attached to the future costs and prices underlying efficiency calculations are highly problematic.

It is essential that there should be full correspondence between the operating costs which are taken into consideration and the use-effects which are analysed. In practice, this requirement runs into several difficulties, since the organizations which undertake cost calculations do not necessarily correspond to the economic units concerned with the analysis of use-effects. It is consequently necessary to select cross-sections of the calculations which are adapted to the needs of the specific project being analysed, with limited use of sectoral- and branch-calculation, based on existing organizational criteria.

The problem of calculating material costs is solved differently in various countries. In the Soviet Union, Bulgaria, Czechoslovakia, eastern Germany and Rumania, the criteria are applied to projects within a single product group, all valuations being in domestic prices; in Poland they are employed uniformly for all products using partly domestic prices and partly foreign currency prices converted into domestic currency by the marginal cost of earning a unit of foreign currency exports; in Hungary the criteria are applied uniformly to all products and the computations are made, so far as possible, in external prices.

The problem of calculating operating costs is strictly related to the period of exploitation of the investment project. The relationship between operating costs and investment outlays will naturally change depending on the length of the period. Owing to technical progress in the economy, the period during which operation of the investment is economically justified may be (and usually is) shorter than its physical (i.e. technical) possibility of exploitation.

It is consequently necessary to develop a method of analysing the economically justified period of exploitation. This is done by comparing two alternatives:

— keeping the old plant (machine) in operation (high operating costs and no investment outlays); or

— replacing it by a new investment (with low operating costs but new investment outlays).

The results of these calculations are, of course, based on certain theoretical assumptions concerning the expected influence of technical progress on the future operating costs of new investments.

In some cases the period of exploitation may be determined by other factors — such as exhaustion of raw material or geological resources, expected changes of demand due to varying preferences, etc.

The synthetic formula of investment efficiency analysis

(a) Historical developments

The first analytical studies of the effectiveness of investment in the Soviet Union were begun in the 1920s. After the Second World War these theoretical studies were further developed in the Soviet Union and in other centrally planned economies — especially in Hungary and Poland. In all these countries the practical nature of the results of the studies took the form of the issuance of directives [54] prescribing the methods to be followed in the comparative analysis of investment projects. Since the theoretical bases of investment analysis are still in the course of development, the following description is limited to techniques which have already been applied, and disregards recent discussions of conceptual issues.

Beyond the technical difficulties of measuring the basic elements entering investment analysis, described above, the basic problem is still that of devising a method for analysing all these elements in a synthetic, uniform formula of efficiency. The main difficulty is that of comparing investment outlays, operating costs and use effects, taking the time factor into consideration, in such a way that the efficiency formula for an individual investment project serves as an instrument of overall economic efficiency.

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[54] Cf. *Metodi i praktika opredeleniya ekonomicheskoi effektivnosti kapitalnykh vlozhenii i novoi tekhniki,* Moscow 1961; *Instrukcja Ogolna w Sprawie Metodyki Bedania Ekonomicznej Efektywnosci Inwestycji,* Warsaw 1962; *Criteria of Investments Allocation in the Hungarian People's Republic* (Memorandum submitted to the Second Conference of Senior Economic Advisers, Geneva 1962); *Smernice Statni Planovaci Komise o urcovani efektivnosti investic a nove techniky v narodnim hospodářstvi CSSR,* Prague 1961.

Three consecutive stages can be distinguished, in the development of methods of investment efficiency analysis, all of which are interrelated and complementary. In the *first* stage the economic analysis of investment was mainly concerned with the construction of technical and economic indicators in kind, characterizing individual investment projects (e.g. production in tons per worker or per unit of power, etc.). In the *second* stage, these indicators in kind were generalized in the form of economic indicators in value terms, still characterizing parts of investment projects (e.g. investment outlays per unit of productive capacity, operating costs per unit, etc.). In the *last* stage, the task of constructing a synthetic formula of investment efficiency, leading to an overall analysis of efficiency, has focussed the attention of economists in the centrally planned economies.

The application of all these methods rests on the assumption that efficiency analysis can be based on relative (not absolute) indicators. Different technically feasible variants are projected, their indicators are compared, and the one with the best indicators is the solution chosen.

The advantage of the physical indicators elaborated in the first stage is that they are free from all the distortions of the existing price system. These indicators were generally drawn up by engineers and did not require any general economic theory as their foundations are relatively easy to construct. Their main weakness is the inconsistency of individual indicators in all cases where the alternative solutions analysed are characterized by various indications which point to differing solutions. In that case there is no indication as to which indicators are more important and no rational decision-making can be based on them.

Thus, the second group of indicators — those expressed in value terms — was elaborated. Here more synthetic conclusions could be derived, as the role of different factors could be weighted in terms of value. However, the adequacy of these value indicators depends upon the rationality of the price system — which is difficult to judge at the executive level. Therefore, the value of these indicators is somewhat subjective, and the system of indicators in kind is useful as a means of checking.

However, neither the use of physical indicators nor of indicators in value terms could resolve a number of methodological problems connected with the evaluation of investments. In the first place, value indicators can also be mutually contradictory (e.g. lower investment outlays with higher operating costs *versus* higher investment outlays with lower operating costs). Second, value indicators do not take into account such essential factors as the immobilization of investment outlays, or the length of the period of exploitation. The need to limit the arbitrary assessment of these factors and to take into account the overall proportions of economic growth led to the development of the synthetic formula of investment effectiveness, where these basic elements of quantitative analysis are considered. The correct use of the synthetic formula of effectiveness depends also on the adequacy of the prices in which investment outlays and operating costs are expressed. If accounting prices are difficult to determine, the need to use the indicators in kind as a controlling measure again arises.

(b) The problem of optimal total labour productivity

The main macro-economic criterion of investment choice is the maximization of national income of a given structure, taking into account: (1) disposable investment resources; and (2) existing manpower supply. In short, this macro-economic criterion can be formulated as the maximization of the total labour productivity.

This postulation cannot be interpreted as a preference for investments where labour productivity is as high as possible. High labour productivity (lowest operating costs) is usually associated with high investment outlays, and such investments are consequently highly capital-intensive. As available investment resources are limited, a policy of favouring investments which grant the highest labour productivity leads to an exhaustion of investment funds, leaving the remaining labour force undersupplied with capital equipment. Conversely, the opposite policy — that of selecting the least capital-intensive investments — would give poor overall results; for by minimizing capital-intensity labour productivity would be low and a labour shortage would result.

The rational choice of technique in individual investment projects is thus determined by the macro-economic relationship between aggregate disposable investment and labour resources. This relationship changes in time and varies between countries. The optimal solution can only be reached if full utilization — of the overall investment fund as well as of overall labour resources — is ensured.[55]

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[55] The point may be illustrated by an example given by M. Rakowski in *Efektywność Inwestycji, op. cit.*

It is possible to present the capital/output ratio in the economy as a function of the average productivity of labour in new establishments.

Assume that the total available investment fund (I) in a planned period amounts to 480 billion zlotys and that labour resources ($Z_{\text{max.}}$) available for new investments amount to 2 million workers (this magnitude is based on the demographic increase plus the workers from liquidated establishments). Assume that the value (in thousand zlotys) added per worker (d_n) and capital/output (m) in new investments is the following:

d_n	60	70	80	90	100	110	120
m	2.0	2.1	2.2	2.3	2.4	2.5	2.6

The resulting increase of national income (Y) as a function of different labour productivity expressed in value added (d_n) will be as follows:

TABLE 1

d_n (in thousand zlotys)	m	$i = d_n \cdot m$ Investment outlays per worker	Z (in million workers)	$I = iZ$ (in billion zlotys)	$Y = d_n Z = I : m$ (in billion zlotys)
60	2.0	120	2.0	240	120
70	2.1	147	2.0	294	140
80	2.2	170	2.0	352	160
90	2.3	207	2.0	414	180
100	2.4	240	2.0	480	200
110	2.5	275	1.74	480	192
120	2.6	312	1.54	480	185

As can readily be seen, the maximum increase of national income is

(c) The marginal recoupment period of investment outlays

The perspective programme determines the structure of national income. The overall efficiency of investment, as measured by the ratio of the increase of national income to that of productive investment, is determined (as a weighted average) by the efficiency of investment in different branches. As the main macro-economic criterion of investment choice is not the maximization of national income in general, but the maximization of national income of a given structure, it is necessary for the purpose of micro-analysis to compare the economic indicators of individual projects with normative branch parameters. These branch parameters characterize a project (described as " basic ") which forms part of the long-term programme and is treated as a basis for comparison with other projects within the same branch. Therefore it is not enough to compare and select the better of two investment variants since both variants may be inefficient in comparison with the basic project, accepted as normative for this branch. Each variant should therefore be compared with the parameters of the basic project. It is possible then to evaluate the difference in investment outlays ΔI (e.g. positive) and the difference in operating costs ΔC (e.g. negative). The actual recoupment period being T, the variant in question will be:

$$T = \frac{\Delta I}{\Delta C}$$

The main problem now consists in deciding whether this actual recoupment period is acceptable from the overall economic point of view. In order to answer this question, the analysed solution is compared with the macro-economic position (assuming that the basic project fulfils the requirements of maximization of national income using available investment and manpower resources).

The introduction of the new variant (which replaces the basic project) changes the macro-economic position as follows:

— the labour force (in the rest of the economy) increases by ΔZ; and

— investment outlays (in the rest of the economy) decrease by ΔI.

Assuming, for the decrease in labour force in the new variant, the recoupment period T and the average wage w, the following expressions are obtained

$$\Delta I = T \Delta C; \; \Delta C = w \Delta Z;$$

hence: $\Delta I = \Delta Z \cdot w \cdot T$;

— let the total investment fund in the basic macro-economic position (excluding the basic project) be J_b,

— let the total labour force in the basic macro-economic position (excluding the basic project) be Z_b.

Then, the new macro-economic position, including the new variant, will be characterized by the following parameters:

$$J_b - \Delta I \quad \text{and} \quad Z_b + \Delta Z,$$

i.e.

$$J_b - \Delta Z \cdot w \cdot T \quad \text{and} \quad Z_b + \Delta Z.$$

If the new macro-economic position ensures a larger increase of national income than the former position, then the additional investment outlays directed into the new establishment are efficiently allocated. If the new macro-economic position yields the same increase of national income as the former position, then the rate of substitution of additional investment outlays for operating costs is equal to the marginal overall rate. Once that marginal rate is known to the planner as an instrument of decentralized analysis, variants which improve the overall results can be accepted and those which do not may be rejected.[56]

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reached when both the investment fund and labour resources are fully utilized. This happens only for one definite value of

$$i = \frac{I}{Z} = \frac{480}{2} = 240 \text{ thousand zlotys per worker,}$$

and also a definite $d_n = 100$ thousand zlotys and $m = 2.4$.

To determine the marginal recoupment period T, when $Y' = Y$, the following table will be analysed (assuming $\Delta Z = 100$ thousand persons and $w = 25{,}000$ zlotys):

TABLE 2

Increase of national income as a function of labour productivity

d'_n Thousand zlotys	m'	i' Thousand zlotys	T	$Z + \Delta Z$ Thousand persons	$I - \Delta Z w T$ Billion zlotys	$\frac{I - \Delta Z w T}{Z + \Delta Z}$
90	2.30	207.0	1	2 100	477.5	227.4
91	2.31	210.2	2	2 100	475.0	226.2
92	2.32	213.4	3	2 100	472.5	225.0
93	2.33	216.7	4	2 100	470.0	223.8
94	2.34	220.0	5	2 100	467.5	222.6
95	2.35	223.8	6	2 100	465.0	221.4
96	2.36	226.6	7	2 100	462.5	220.2
97	2.37	229.9	8	2 100	460.0	219.0
98	2.38	233.2	9	2 100	457.5	217.8
99	9,39	236.6	10	2 100	455.0	216.7

Using interpolation it is possible to discover the values of T, for which:

$$\frac{I - \Delta Z \cdot w \cdot T}{Z + \Delta Z} = i' = m' \, d'_n.$$

TABLE 3

T Years	i Thousand zlotys	d'_n Thousand zlotys	m'	$Y' = d'_n \, (Z + \Delta Z)$ Billion zlotys
1	227.4	96.3	2.363	202.2
2	226.2	95.9	2.359	201.6
3	225.0	95.5	2.355	200.5
4	223.8	95.1	2.351	199.7
5	222.6	94.7	2.347	198.8
6	221.4	94.4	2.344	198.2
7	220.0	94.1	2.341	197.6
8	219.0	93.7	2.337	196.7
9	217.8	93.3	2.333	195.9
10	216.7	93.0	2.330	195.3

The above table shows that $Y' = Y$, when $T = 3.6$ years. This is thus the marginal recoupment period calculated on the basis of the data assumed above.

[56] To illustrate the general scheme of calculating the marginal recoupment period the values of the former example will be used.

According to the notations of Table 1,

$$i = d_n \cdot m = \frac{I}{Z} \text{ and } Y = d_n \cdot Z \, ;$$

in the new conditions:

$$i' = d'_n \cdot m' = \frac{I - \Delta Z \cdot w \cdot T}{Z + \Delta Z} \text{ and } Y' = d'_n \cdot (Z + \Delta Z).$$

On the basis of the calculations shown in Table 1, the values accepted as optimal for the basic macro-economic position are

$$i = 100 \cdot 2.4 = \frac{480}{2} = 240 \text{ (thousand zlotys)}$$

$$Y = 100 \cdot 2 = 200 \text{ (billion zlotys).}$$

The above method assumes that it is possible to calculate the function $m = f(d_n)$. In practice, however, the perspective programmes elaborated so far have been framed in too general terms to allow this function to be constructed with sufficient precision.

Another approach has developed in order to overcome this difficulty. The calculation of the marginal recoupment period is derived from the efficiency analysis of the replacement of old by new equipment, requiring a reduced labour force. The scrapping of old equipment is dictated by the overall balance of labour force, requiring transfers of workers from old and inefficient to modern plants.

Two solutions are possible. First, to scrap old plants with low labour productivity and to transfer workers to new establishments with high labour productivity. The scrapping of old equipment proves profitable [57] when the total investment fund cannot be fully utilized (owing to labour shortages) and the productivity of new plants cannot be increased. In that case the result of scrapping old equipment and utilizing the whole investment fund will be:

$$Y = \frac{I}{m} - \Delta Z_o d_o$$

where: ΔZ_o — the decrease in employment in old plants,
d_o — productivity of labour in old plants.

Secondly, a composite method can be applied if the labour deficit can be partly overcome by labour savings yielded by additional investment outlays on technical progress (I_p) in new or operating plants. In that case, the scale of scrapping of old plant can be limited. This decrease in the rate of scrapping of old plant results from the simultaneous operation of two factors:

(i) the decrease in demand for labour due to investment in technical progress $\frac{(I_p)}{Tw}$;

(ii) the decrease in demand for labour in new plants because a part of the investment outlays is devoted to technical progress which does not increase productive capacities $\frac{(I_p)}{m\,d_n}$.

Hence:

$$Y' = \frac{I - I_p}{m} - \left(\Delta Z_o - \frac{I_p}{T_w} - \frac{I_p}{m\,d_n}\right) d'_o$$

where d_o is the average labour productivity of scrapped equipment (which is smaller than d_o, because of the smaller scale of scrapping).

Additional investment outlays on technical progress will be profitable if $Y' > Y$, i.e.

$$I - I_p - \left(\Delta Z_o - \frac{I_p}{Tw} - \frac{I_p}{m\,d_n}\right) d'_o > \frac{I}{m} - \Delta Z_o d_o \cdot$$

Assuming, for the sake of simplicity, that $d'_o = d_o =$ constant, it follows that

$$\left(\frac{I_p}{Tw} + \frac{I_p}{m\,d_n}\right) d_o > \frac{I_p}{m} \cdot$$

Thus:

$$T < \frac{m\,d_n}{w} \cdot \frac{d_o}{d_n - d_o} \cdot$$ [58]

The policy of scrapping old equipment is closely connected with the policy pursued in respect of technical progress, and both determine the marginal recoupment period of additional investment outlays. The value of T derived by this method was found to be too low, since the problem of economizing inputs of materials, especially of raw materials (production of which is highly capital-intensive), was not taken into account. The final value of T adopted in Poland was 6 years.

In Hungary T is taken as being equal to 5 years. Both countries apply the recoupment period uniformly to all branches. The uniform marginal recoupment period is especially significant for inter-branch comparisons of investment outlays connected with foreign trade. However, this uniformity relies on the simplifying assumptions of complete mobility of capital and labour between branches and of complete substitutability between the two. In practice, such assumptions are often unrealistic. Labour surpluses in certain branch-regions cannot be transferred to deficit branches or regions; nor are investment funds always readily transferable from branch to branch. The substitution between labour and capital is often limited.

In order to take these limitations into account, two solutions are possible:

(1) to correct the uniform T by:

(a) introducing into the calculus quantifiable factors characterizing each investment (e.g. the length of the operation period). Thus, by maintaining a uniform T differentiated efficiency indicators are obtained; or

(b) by taking into account in the descriptive part of the analysis (dealing with unmeasurable elements) the specific limitations of substitution between investment outlays and labour or restrictions in the mobility of labour characteristic for a given branch.

(2) by differentiating T by branches (or sectors) and/or regions. This is regarded as an instrument for influencing the choices made at the executive level, in accordance with the preferences of the central planner.

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[57] From Table 1 it is obvious that with 480 billion zlotys, but with no possibility of increasing the productivity of labour over 90 thousand zlotys per worker, only 414 billion zlotys could be utilized. If it is decided to scrap old plants and to transfer labour, then:

(*a*) assuming $i = 207$ thousand zlotys, total employment should be 480 billion zlotys: 207 thousand zlotys = 2.32 million workers. Hence, 320 thousand workers should be freed by scrapping the old plants.

(*b*) assuming the productivity in old plants equal to 30 thousand zlotys per worker, the final result of investing the whole disposable fund will be:

$$Y = \frac{I}{m} - \Delta Z_o d_o = 199.1 \text{ billion zlotys}$$

(where $m = 2.3$; $d = 90$ thousand zlotys, $\Delta Z_o = 320$ thousand workers; $d_o = 30$ thousand zlotys).

If the old equipment were not scrapped, Y would be 180 billion zlotys.

[58] In the examples given earlier:

$$T < [(2.3 \cdot 90{,}000) : 25{,}000] \quad [30{,}000 : (90{,}000 - 30{,}000)]$$
$$T < 4.14 \text{ years.}$$

For example, the normative recoupment periods used in the Soviet Union [59] are as follows:

Branch	*To (in years)*	$E'o = \frac{I}{T}$ *(Percentage)*
Energy	10	10
Transportation	10	10
Metallurgy	7	14
Construction	6	16-17
Forestry industry	5	20
Coal industry	5	20
Machinery	3-5	33-20
Chemicals	3-5	33-20
Light industry	3	33

In practice the results obtained under (1) and (2) are not appreciably different.

(d) The basic formula

The basic approach to the evaluation of different variants of a given project giving the same annual output "P" is similar in all eastern European countries.[60] Starting from a simplified statement of the problem planners examine total investment costs "I" (including an auxiliary set of investment) and the annual cost of production "C" of individual variants. The condition for choosing between the two variants where:

$$I_2 > I_1 \quad \text{and} \quad C_2 < C_1$$

may be written as: $\dfrac{I_2 - I_1}{C_1 - C_2} < T \cdot$

This means that additional investment outlays are accepted if they are recouped by economies in operating costs, which should not be less than the savings which the same investment in the least efficient branches of the economy would procure (i.e. the marginal rate of substitution between capital and labour).

Hence: $I_2 - I_1 < (C_1 - C_2)\,T$

or $\dfrac{I_2}{T} + C_2 < \dfrac{I_1}{T} + C_1 \qquad \ldots\ldots\ldots$

In other terms, preference should be given to the variant in which the fraction "E" has the lowest value:

$$E = \frac{\frac{1}{T} \cdot I + C}{P} \qquad \ldots\ldots\ldots$$

This simplest "basic" formula is based on the following assumptions:

(i) that all compared variants give an equal and constant production in the same period of time;

(ii) that the period of immobilization of investment funds during construction is equal to zero;

(iii) that the period of exploitation is equal in all variants and the same as the average for the economy as a whole.

This basic formula can also be presented in a somewhat different form, using the so-called discount rate q:

$$\frac{\frac{1}{T}I + C}{P} = \frac{\frac{n}{T}I + Cn}{P_n} = \frac{\left(\frac{n-T}{T} + 1\right) I + Cn}{P_n}$$

$$= \frac{I\,(1 + qn) + Cn}{P_n}$$

where: n = period of exploitation of investment
q = discount rate.

$$q = \frac{n-T}{nT} = \frac{1}{T} - \frac{1}{n} \cdot$$

In the Soviet Union, where the recoupment period is differentiated among various branches, recoupment periods of analysed variants are compared with the normative recoupment periods (T_o) for these branches. The basic formula is similar:

$$T = \frac{I_1 - I_2}{C_2 - C_1} \text{ or } \frac{1}{T} = E' = \frac{C_2 - C_1}{I_1 - I_2} \cdot$$

This formula is also used, with some adaptation, for comparing different variants:

$$I + T_o C \quad \text{or} \quad C + E'_o I,$$

where: I — investment outlays in the analysed variant
C — costs (including amortization) in the analysed variant
T_o — normative recoupment period
E'_o — normative coefficient of effectiveness of capital investment (normative discount rate).

Soviet planners also use two general indicators in their analyses. One compares the increase in national product with the volume of investment related to this increase; and the other, which is used in enterprises and called the "rentability indicator", compares the yearly profit of an enterprise with the total value of its capital assets. In the Soviet Union calculations of the investment efficiency of different "variants" in individual branches are usually supplemented by the calculation of various technical data concerning, for instance, labour productivity, unit costs of production, and investment per additional unit of output, etc., which help planners to choose the best among several variants of a given investment project.

In Czechoslovakia the basic approach is similar to that used in the Soviet Union. Hungarian planners, on the other hand, have introduced a novelty into the general formula in the form of an allowance for the working capital required for the operation of a given investment project. But the most notable peculiarity of the Hungarian approach is that it compares the capital efficiency of a project not only with the average efficiency obtaining in the country but also with that obtaining abroad. This is a sign of the great importance attached to foreign trade planning in Hungary (the Hungarian formulae are described in sub-section 4, dealing with investments connected with foreign trade).

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[59] *Tipovaya metodika opredelenya ekonomicheskoi effektivnosti vlozheniy v novoy tekhniki v narodnom khozyaistve SSSR*, Moscow 1960. There is a vast literature on this subject in the Soviet Union. There are also some economists who advocate the use of a uniform rate of discount (see, for example, I. Malyshev: *Planovoe khozyaistvo*, No. 1, 1961 or E. Achundov in *Voprosy ekonomiki*, No. 4, 1962)

[60] For Hungary, see, for instance, *Törvények és rendeletek hivatalos gyüjteménye*, 1961, pp. 312-313; *Népgazdasági tervezés*, II, pp. 117-122; and *Beruházások gazdasági hatékonysága Pénzügy és számvitel*, No. 2, 1963, p. 1.

For Poland see, for instance, a series of articles published since 1957 by Professor M. Kalecki in *Ekonomista*, No. 1, 1957; *ibid.* No. 6, 1958; M. Kalecki and M. Rakowski, *Gospodarka Planowa*, No. 11, 1959 and No. 3, 1962; *Ekonomista*, No. 5, 1961; and *Efektywność Inwestycji, op. cit.*

For the Soviet Union: USSR Academy of Sciences: *Metodi i praktika opredelenya ekonomicheskoi effektivnosti kapitalnykh vlozenći i novoi tekhniki*, Moscow 1961.

For Czechoslovakia: *Smernice Státni Planovaci Komise o urćovani efektivnosti investic a nove techniku v narodnim spodářstvi CSSR*, Prague 1961.

(e) The development of the basic formula

Planners in eastern Europe knew that the simplifying assumptions on which the basic formula rests would have to be removed if the efficiency calculations were to be rendered more realistic. As a first correction, they added to the formula a calculation of the investment-means immobilized during the period of construction and during the period necessary to bring a project to its planned productive capacity. Secondly, the influence of the differences in the period of exploitation on the productive effect had to be taken into account. And thirdly, the same influence on the operating costs had to be considered.

1. *The problem of the gestation of investment* (the immobilization of investment resources) is solved in the Soviet Union by using the compound interest formula:

$$q_t = (1 + E'_o)^t$$

where t is the gestation period measured in years. In cases where the gestation period is relatively short, the simple-interest formula is used:

$$q_t = 1 + E'_o\, t\,\cdot$$

The Soviet method also makes allowance for the immobilization of resources due to the " fruition " period —i.e. the period necessary for a productive unit to reach its planned capacity. This allowance is made by means of another coefficient:

$$Y = 1 + E'_o \frac{(t')}{(2)}$$

where: t' stands for the fruition period measured in years. The cost of investment I in the basic formula is multiplied by the coefficient q_t and Y.

In Hungary the problem of the immobilization of investment resources during the construction period is solved by means of the simple-interest rate formula $1 + Et$, similar to the method used in the Soviet Union, where E signifies the capital coefficient of 0.2 adopted for the whole country — which indicates as noted earlier, that the recoupment period " T " in Hungary amounts to 5 years. The immobilization of investment resources in auxiliary investment is calculated similarly — with, however, the application of a higher efficiency coefficient of 0.25.

A Polish contribution made by the unified basic formula is the calculation of an " immobilization effect " coefficient " q_z ", which takes the form neither of a compound- nor simple-interest rate formula, but is calculated in relation to the economic factors prevailing in the country: the planners estimate the value of national product which might have been produced if the tied-up investment resources had been used elsewhere.

The method of calculating immobilized investment resources $I\,n_z$ was described in sub-section 2 (*b*) above. It was stated that the economic losses due to the immobilization of investment outlays during the gestation period are proportional to $I\,n_z$; hence they are $I\,n_z\,q_z$, where q_z is an immobilization coefficient characterizing the losses in national income (d) per unit of frozen funds per year. Two problems then remain to be solved: how to calculate q_z; and how to include $I\,n_z\,q_z$ in the basic formula. The calculation proceeds as follows. Assume that the capital output ratio in the economy as a whole amounts to m, then the output of each unit of immobilized q_z investment would be $\frac{1}{m}$; if the annual amortization of fixed assets in the national product is denoted by V, then $q_z = \frac{1}{m} - V$. In order to increase national product by the unit d, investment $m.d$ and circulating capital $u.d$ are needed. When supply of and demand for manpower are in equilibrium it is also necessary to undertake some investment so as to release the necessary additional workers. If the average ratio of wages and salaries to the national product is denoted by r, then the wage-fund of the workers employed in its creation is equal to $r.d$. However, in the new investment projects the ratio of wages to national income is lower, hence $r' < r$. The investment needed to release a wage-fund equal to " $r'd$ " is calculated by means of the recoupment period " T ". Hence, the investment needed for the purpose is equal to "$r'.d.T$". The increase of national product by " d " therefore calls for $m.d + u.d + r'd.T$ and the annual national product created by the unit of investment q_z is equal to:

$$q_z = \frac{d}{m\cdot d + u\cdot d\cdot + r'\cdot d\cdot T} = \frac{1}{m + u + r'\,T}$$

and with amortization of fixed assets in the national product,

$$q_z = \frac{1}{m + u + r'\,T} - V$$

In Polish conditions it is assumed that:

$$m = 2.5;\ u = 0.5;\ r' = 0.4;\ T = 6;\ V = 0.025;$$

hence, $q_z = 0.16$

The basic formula is used to compare different investment variants yielding the same productive effects. If some investment resources are lost (because of immobilization) or saved (because of " de-freezing "), the overall investment fund would decrease or increase by the magnitude $I\,q_z\,n_z$. Hence, this magnitude should be added to the direct investment outlays I, i.e. $I + I\,q_z\,n_z = I\,(1 + q_z\,n_z)$.

Thus, the basic formula now reads:

$$E = \frac{\frac{1}{T}\,I\,(1 + q_z\,n_z) + C}{P}$$

In Hungary the " immobilization period " (n_z) is calculated as in Poland, but q_z is assumed to be equal to $E = \frac{1}{T}$;

2. *The length of productive operation* was assumed, in the first stages of investment analysis, to be equal to the physical life of the equipment. When labour shortages occurred, however, the problem of "moral" obsolescence occurred. The longevity of capital brings about two conflicting trends. There are gains due to the stream of production coming from amortized capital assets, but at the expense of steadily rising current costs compared with similar output obtained by using more modern equipment. To deal with this problem, Polish planners have introduced mathematical formulae which allow the lives of different fixed assets and different operational costs to be brought to a common denominator, thus making it possible to determine the optimal period of exploitation of a given investment project.

The different periods of exploitation are reduced to a standard period by the following steps. It is assumed, first, that aggregate investment increases yearly by a constant a per cent, and that all fixed assets have the same longevity of "n" years; in which case the value of all fixed assets at the end of a given year is equal to investment "I" in that year, and in $(n-1)$ preceding years. Earlier investments, on this assumption, have been written off. The value of fixed assets can be expressed as:

$$M_n = \sum_{K=1}^{K=n} I\left(\frac{1}{1+a}\right)^{K-1} = I\,\frac{\left[1-\left(\frac{1}{1+a}\right)^{n}\right](1+a)}{a}$$

If it is further assumed that in such an investment process the average capital/output ratio equals m, then total output would read:

$$F_n = \frac{M_n}{m} = I\,\frac{\left[1-\left(\frac{1}{1+a}\right)^{n}\right](1+a)}{am}$$

It may now be assumed that the average longevity of all capital assets amounts not to n but to n_s years—i.e. is equal, for instance, to a standard period of 20 years, and the average capital/output ratio amounts not to m but to m_s;

then total output is:

$$F_{ns} = \frac{M_{ns}}{m_s} = I\,\frac{\left[1-\left(\frac{1}{1+a}\right)^{n_s}\right](1+a)}{am_s}$$

The two models of economic development with different longevity of capital assets and capital intensities would be equal on condition that $Fn = Fn_s$. From that equality we receive:

$$\frac{m}{m_s} = \frac{1-\left(\frac{1}{1+a}\right)^{n}}{1-\left(\frac{1}{1+a}\right)^{n_s}} = Z_n$$

Thus, an investment process with parameters n and m is equivalent to another investment process with the same total output but with parameters n_s and $m_s = m\colon Z_n\cdot$

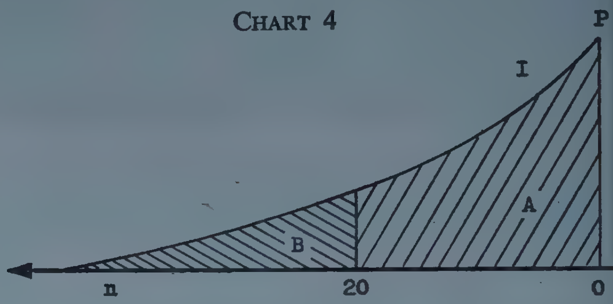
The magnitude Z_n depends on the rate of growth of investment "a" and on the number of years "n" ("n_s" being constant). In conditions of a simple reproduction process, when the rate of growth of investment tends to zero, $Z_n = \frac{m}{m_s}$ tends to $\frac{n}{n_s}$. This means that in conditions of very slow economic growth it is justifiable to construct capital-intensive and very durable investment projects, whereas in a rapidly developing economy it is not. If the yearly investment increase "a" is taken as 7 per cent, then the function $Z_n = f(n)$ for various n, at n_s equal to 20 years would read (*in percentages*):

n	5	10	15	20	25	30
Z_n	38.7	66.3	86.0	100.0	110.0	117.1

n	35	40	45	50	∞
Z_n	122.2	125.8	128.4	130.2	135.0

The graphic illustration will be as follows:

CHART 4



The curve I characterizes investments in the period n, on the assumption of a steady growth of investment equal to "a" per cent each year. A represents the sum of fixed assets in operation when it is assumed that $n=20$ years. B represents the additional magnitude of fixed assets (and production) under $n \longrightarrow \infty$.

The conclusion to be drawn from the above table and graph is that if planners wish to increase the longevity of projects from 20 to 40 years, at the same volume of production, they should not increase the capital intensity of new projects by more than 25.8 per cent, and even if they wish to construct projects with an indefinite period of life, the capital intensity should not be more than 35 per cent above the capital intensity of the standard period of 20 years.

The above macro-economic relationships between total fixed assets, annual investment outlays and their annual rate of increase, total and annual production, the capital/output ratio and the length of period of exploitation can be applied to individual investment projects. Thus two projects with periods of exploitation n and n_s and capital intensity m_t and m_s respectively will be equivalent, if their total production (corresponding to the magnitudes F_n and F_{ns} in the macro-economic position) is equal. Then $m_s = m_t : Z_n$; the same annual investment outlays can be allocated alternatively to a project with an annual production P, capital intensity m_t, and period of exploitation n, or to another project with an annual production P_z (capital intensity m_s) and with a period of exploitation n_s.

$$P \cdot m_t = P_z \cdot m_s; \quad \text{as } m_s = m_t : Z_n$$

hence: $$P_z = P \cdot Z_n;$$

P_z replaces P in the basic formula.

3. Once the effect on production of the lifetime of capital assets has been established, its impact on *the cost of production* has to be determined. A flow of investment funds (increasing at a rate of *a* per cent) to productive projects with a lifetime of *n* years results in global production F_n at a cost of G_n. Investment in a period of n_s years creates production F_s at cost of G_{ns}. If operating costs per unit were unchanged in newly constructed projects in all consecutive years, then the relationship between G_n and G_{ns} would be the same as that between F_n and F_s — i.e. equal to Z_n. However, there is a constant decrease of operating costs per unit (assuming stable wages) as a result of technical progress; therefore the growth of investment and production by *a* per cent (e.g. 7%) will be accompanied by a growth of operating costs of " *c* " per cent (e.g. 3%), where $a > c$.

For the sake of brevity, the mathematical calculations may be omitted, the final results reading as follows:

$$\frac{G_n}{G_{n_s}} = \frac{1-\left(\frac{1}{1+c}\right)^{n}}{1-\left(\frac{1}{1+c}\right)^{n_s}} = Y_n \cdot$$

The function of $Y_n = f(n)$ for different values of *n* reads as follows:

n	5	10	15	20	25	30	35	40	45	50	∞
Y_n	30.8	57.3	80.2	100	117.1	131.8	144.5	155.4	164.9	173.1	225

To recapitulate: in order to render the efficiency coefficient of a project with a life of *n* years comparable to the efficiency coefficient of a project of n_s, or standard lifetime, the P_z of the first project has to be multiplied by Z_n. Then PZ_n is obtained, referring to production in a period of n_s.

The same applies to *C* (costs) in a period of " *n* " years. If *C* is multiplied by the coefficient Y_n, then CY_n, referring to a standard period n_s, is obtained. Given these improvements, the basic equation would read:

$$E = \frac{1}{T} \cdot I \, \frac{(1 + q_z n_z) + CY_n}{PZ_n} \, .$$

For a better understanding of Z_n and Y_n it is useful to examine the capital efficiency coefficient *E* in different values of *n*, but with unchanged parameters *T, I,* q_z, *C* and *P* — in other words, to examine $E = f(n)$. In order to do so, the above equation may be changed to the form:

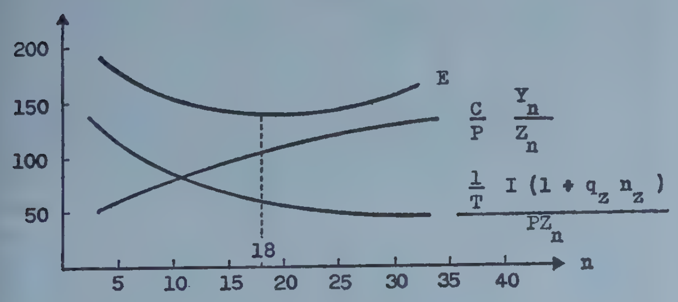
$$E = \frac{\frac{1}{T} I (1 + q_z n_z)}{PZ_n} + \frac{C}{P} \cdot \frac{Y_n}{Z_n} \, .$$

Assuming that $I = 200$, $n_z = 2$ years, $C = 100$, $P = 1$ $T = 6$ years, the solution for different values of *n* reads as follows:

	Years of exploitation								
	5	*10*	*15*	*18*	*20*	*25*	*30*	*35*	*70*
1. $\frac{\frac{1}{T} I(1 + q_z n_z)}{PZ_n}$	113.5	66.2	51.1	46.2	44.0	40.0	37.6	36.0	34.9
2. $\frac{C}{P} \frac{Y_n}{Z_n}$	79.4	86.3	93.2	97.3	100.0	106.3	112.6	118.3	123.5
3. $E = (1) + (2)$	192.9	152.5	144.3	143.5	144.0	146.3	150.2	154.3	158.4

The table shows that for a given investment project, the efficiency coefficient *E* is best for a period of 18 years and that prolongation of its lifetime beyond that period is economically unsound.

CHART 5



In order to simplify the calculations, the z_n and Y_n relations are recomputed in standard Polish methodology into the simple parameter " *b* ", calculated for a number of years and easily available in a standard table.

Throughout the foregoing discussion, costs *C* were taken to refer only to the cost of processing. To complete the formula, it is necessary to add the yearly costs of raw materials, semi-finished products, fuel energy and capital maintenance. The final formula would then read:

$$E = \frac{\left[\frac{1}{T} I (1 + q_z n_z) + C\right] \cdot b + S \cdot}{P}$$

In principle, all calculations are made at the list prices in force, although exceptions are admitted in special cases — for example, in the case of an investment project producing for export, world market prices are used, as in Hungary.

The formulae described so far were based on the assumption of constant output and operating costs during successive years of the period under consideration. In practice, however, this assumption is untenable, since both output and operating costs vary during the period of operation. Some additional formulae have therefore been developed which allow these differing levels of output and operating costs over time to be taken into account.

4. *The analysis of investments connected with foreign trade*

Methods of investment analysis primarily related to projects connected with import substitution and export promotion have been mainly developed in some of the smaller eastern European countries (Hungary, Czechoslovakia, Poland).

This field of analysis gives the central planner the widest range of choice among various investments in different branches; for the common denominator of foreign currency earnings is available for comparing alternative use-effects. Moreover, the scope for manoeuvre is broad because in the long run productive capacities and disposable raw material resources can be determined by investment policy. On the other hand, elements of uncertainty are of great importance and increase the danger of erroneous conclusions being drawn.

The general formula developed in Poland for the analysis of investments connected with foreign trade is as follows:

$$E_{Dn} = \frac{\frac{1}{T} I (1 + q_z n_z)}{D_n Z_n} + \frac{C_n Y_n}{D_n Z_n},$$

where: D_n — net annual earnings of foreign currency (described in section 7); calculated by subtracting the value of all imported and exportable inputs from gross exchange earnings.

C_n — annual domestic operating costs; calculated by subtracting the domestic cost of imported and exportable materials and amortization from total operating costs.

Foreign currency inputs and earnings are differentiated according to geographical destination or origin. In investment analysis three main groups are distinguished: countries with freely convertible currency; clearing markets; and centrally planned economies with which long-term and specialization agreements are in force. These inputs and earnings are then expressed in comparable currency, using accounting exchange rates established for long-term analysis.

An important innovation introduced in Poland is the concept of the marginal rate M (described in section 7):

$$E_{Dn} < M \cdot$$

In long-term analysis this central parameter M is determined by an iterative procedure, on the basis of an overall evaluation of the investment and foreign trade plans.

An alternative formula reflecting the importance attached by the central planner to the necessity of earning quick foreign currency effects within the next planned period is used:

$$E_{Pl} = \frac{I + (t_e \cdot C_{pl})}{t_e D_n},$$

where: t_e — period of exploitation during the plan (e.g. five-year plan).

In the nominator investment outlays and operating costs during the plan period are introduced; in the denominator the sum of net foreign currency earnings during the forthcoming plan period is considered. Neither outlays nor effects occurring in subsequent years are taken into account. Thus, the formula favours only investments yielding swift recoupment.

In Hungary each new large-scale investment project is analysed from the point of view of its efficiency in terms of foreign commodity exchange, and the product of the analysis includes a decision on what should be imported and what exported. Wide use is made of "accounting" prices based on world market prices, expressed in forints at the current exchange rate.

The following formulae are used:[61]

$$E_e = \frac{P_g - M - A}{W + 0.2\,(I + C)} \quad \cdots\cdots(1)$$

$$E_n = \frac{P_g}{W + M + A + 0.2\,(I + C)} \quad \cdots\cdots(2)$$

where:

E_e — indicator of economic efficiency at the enterprise level

E_n — indicator of economic efficiency at the national (i.e. central) level

P_g — gross annual value of production

M — annual outlays on materials, energy, intermediate goods, etc.

A — annual sum of amortization

W — annual outlays on wages

I — investment outlays

C — sum of working capital needed for the operation of the investment

0.2 — normative coefficient showing how much a unit of fixed and working capital contributes to the increase of net national income.

Whereas in formula (1) the values of M, A, W, I and C are computed by taking into account only the outlays of the enterprise which will manage the investment in question, in formula (2) these outlays are calculated for the economy as a whole. The latter exercise relies partly on *ad hoc* calculations, and partly on the use of various normative coefficients showing, for example, how much investment (in forints) is needed, on average for the economy as a whole, in order to produce annually a unit (i.e. 1 forint's worth) of basic materials. The values of such normative coefficients are established at the central level; their use is obligatory, and this helps in assessing the comparative advantage of various domestic branches in the light of the efficiency conditions prevailing abroad. This analysis is repeated for subsequent stages of production, and allows the efficiency of individual consecutive technological processes to be assessed. As in all other centrally planned economies, in Hungary the planners compute a number of quantitative indicators — such as cost per unit of production or employee, power requirements, etc. — which make it easier to reach a final decision on the construction of an investment project.

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[61] Based on a memorandum communicated by the Hungarian Government.

7. OPTIMIZATION METHODS IN PLANNING FOREIGN TRADE

Introduction

In the description of the nature and limitations of the efficiency calculations in eastern European planning in this chapter, it was observed that efficiency criteria are used as tools for ensuring the rational choice of the means yielding the fulfilment of planned targets. The range of choice is undoubtedly greatest in the foreign-trade sector, and for this reason much attention has been devoted in the centrally planned economies to the development of optimization criteria in this field. Important progress has been made in recent years — and continues — in this branch of theoretical research; hence the following description of the state of knowledge at the end of 1964 should not be regarded as in any way definitive. The theory of foreign trade optimization, and its application in plan formulation, is still developing and it is not possible to describe here all the lines of inquiry which are being pursued in this field.[62] Consequently, the material presented in this section is limited to these methods of optimization which are in actual use as part of the system of mandatory planning directives. Nor would it be practicable to review the methods employed in all the European centrally planned economies in the space available; the description is therefore confined, for the most part, to Poland's experience.

The analysis of methods of optimization does not go beyond the sphere of foreign trade policy in the short run — i.e. that of the choice of directions of foreign trade (allocations by markets) and of the commodity structure of domestic production, exports and imports. In principle, therefore, constant production capacities are assumed. Methods of analysing investments directly related to foreign trade were described in section 6, with the exception of the so-called " foreign trade fast recuperating " investments. These are described in this section together with foreign trade efficiency analysis,[63] because of the similarity of methods used and because the allocation of investment funds for this purpose is usually in the competence of the Ministries of Foreign Trade.

The antecedents of foreign trade efficiency analysis

The development of the theory and practice of efficiency analysis in foreign trade started as recently as in the mid-1950s. This relatively late start is attributable to conditions in which the Soviet economy developed and in which foreign trade was of secondary importance. With the emergence of a group of centrally planned economies, for each of which foreign trade was a vitally important factor influencing the formation of national income,[64] the autarkic path of development, characteristic of the pre-war Soviet economy, ceased to be a political necessity, and the problems of the efficiency of foreign trade increasingly attracted the attention of eastern European economists. But because the development of a theory of foreign trade efficiency has taken place within the framework of a centrally planned economic system, differing radically from that of a market economy, the new methods of foreign trade efficiency analysis have had to take these differences as their point of departure.

In a centrally planned economy there is no automatic market mechanism, the rates of exchange of foreign currency are established more for book-keeping than for strictly economic purposes, and the domestic structure of prices and costs is quite separate from foreign price relatives. Domestic prices differ substantially from costs of production on account of " accumulation margins " (either positive or negative); and further discrepancies result from domestic pricing of imported raw materials.

In a centrally planned economy, the planning of foreign trade is an integral part of the planning system. The criteria of effectiveness of exports and imports depend on the objectives assigned to foreign trade. If these consist merely in assuring economic growth by means of satisfying demand for indispensible (i.e. non-competitive) imports, then the structure of foreign trade is determined by commodity balances, and the geographical pattern of exports and imports by balances of payments with each foreign market. Once the targets have been established in this way, the remaining task is to assure the plan's internal consistency on the basis of the balances of commodities and the balances of foreign currencies. The problem of optimizing the commodity and geographical pattern of foreign trade does not occur.

The procedure is different, however, in an economy in which foreign trade operations, besides obtaining required imports, are expected to benefit from the international division of labour, and thus contribute to lowering the total social outlays of labour necessary to achieve the planned level and structure of national income. For the accomplishment of this task, the problem confronting the foreign-trade planners is not only to balance the commodity and foreign currency transactions of the plan, but also to optimize the structure and direction of foreign trade.

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[62] Much interesting work has been done in a number of research centres of the Academies of Sciences and of the Foreign Trade Ministries of Hungary and Poland. The following are among the most notable contributions:

J. Kornai and B. Matos: " The Application of the Input-Output Tables to Determine the Optimum Development Programme of the Aluminium Industry ", in O. Lukacs, *Input-Output Tables*, Budapest 1962.

J. Kornai and T. Liptak: *Two-Level Planning*, Duplicated, Computing Centre of the Hungarian Academy of Sciences, Budapest 1963.

A. Nagy: " The Optimum Volume of Foreign Trade and the Optimal Exchange Rate " and A. Marton and M. Tardos: " Short-run Optimization of the Commodity Pattern by Markets of Foreign Trade " (papers presented at the Zurich meeting of the Econometric Society, September 1964), Budapest 1964.

K. Laski: " Wplyw Handlu Zagranicznego na Stope Wzrostu Gospodarcego ", *Ekonomista*, No. 1, 1964.

J. Soldaczuk: " Handel Zagraniczny a Dochod Narodowy ", *Gospodarka Planowa*, October 1964.

[63] In what follows the terms " efficiency " and " profitability " are used — as in the majority of eastern European countries — interchangeably. In some of these countries, however, the term " profitability " is used for individual gains levied in financial terms on the basis of existing prices, whereas the term " efficiency " is reserved for the evaluation of the commodity from the point of view of the economy as a whole.

[64] Per capita foreign trade turnover in 1962, in US dollars, was: Soviet Union, 61; Poland, 117; Hungary, 167; eastern Germany, 237; Czechoslovakia, 308 (United Nations *Statistical Yearbook 1963* and United Nations *Demographic Yearbook 1963*).

In all eastern European countries foreign trade is transacted by state-owned foreign trade enterprises. Planning is centralized in the Ministries of Foreign Trade, which disaggregate the foreign trade targets set by the central planning agency and transmit directives to each foreign trade enterprise. The foreign trade monopoly acts as a kind of clearing-house, its agencies buying home produced goods for export and selling imported goods at domestic transfer prices, with revenue and expenditure in foreign currency being converted into domestic currency at the official rate of exchange (these transactions giving rise to the budgetary levies and subsidies described in section 5 of this Chapter and Chapter VI).

An important characteristic of the system is that the general decisions taken at the central level determine the choice of alternatives and the detailed nature of the solutions adopted at the executive level. For this reason the analysis of the efficiency of foreign trade is of great importance, and synthetic calculations at the central level are a prerequisite of rational decision-making.

Problems of efficiency analysis occur when there are possibilities of choice. In short-run foreign trade analyses such possibilities occur in planning the assortment of production and in selecting trading partners; and as a rule there is the ancillary problem of determining which amount of limited investment resources should be allocated to " fast recuperating investments ". More specifically, the following decisions have to be taken: which export commodity to choose; whether to produce domestically or to import; which markets to export to or to import from; and which amount of limited investment funds to allocate to the quick promotion of productive capacities for export or import substitutions.

In the development of foreign trade efficiency analysis as a rational means of providing answers to these questions, two main consecutive stages can be distinguished: first, the construction of separate coefficients of export efficiency, based on various partial criteria; and, second, the construction of comprehensive macro-models, encompassing exports as well as imports, and derived from the global plan model. The techniques used in each of these stages of foreign trade efficiency analysis are described in turn below.

Partial efficiency criteria [65]

The published theoretical discussion of foreign trade efficiency criteria started in 1954 in Hungary [66] and Czechoslovakia, [67] and was subsequently taken up in Poland [68] and eastern Germany.[69] Attempts were made to work out a set of efficiency coefficients that would allow export commodities to be ranked according to some objective criteria of profitability, thus helping the planner to establish some order of priority in the formulation of export plans at least. In all these countries the problems encountered were similar, inasmuch as their foreign trade planning was based mainly on the methods of commodity — and foreign currency — balancing mentioned earlier.

The first step was to introduce various efficiency coefficients. Their names, their number, and sometimes also their formal construction, differed from country to country; the following account is not exhaustive, but describes all basic coefficients and their formulae. In all the coefficients described below, the distorting effects of the official exchange rate are circumvented by comparing directly the world market prices with domestic costs.

A financial indicator

The most simple coefficient, intended to provide a general notion of efficiency, was the so-called " financial indicator " F, which compared foreign and domestic prices:

$$F = \frac{P}{D}$$

where: P — domestic price
D — world price in foreign currency (*f.o.b.* frontier).

The only merit of the indicator was its simplicity and aggregativeness — in the sense that it could be calculated for individual commodities as well as for global transactions. While it provided information about the purely financial profitability of transactions (exports as well as imports), it was plainly unsatisfactory as a measure of overall economic efficiency; for it concealed those price distortions caused by varying accumulation margins as well as those due to the arbitrary domestic pricing of imported raw materials.

A gross coefficient of efficiency

To eliminate the first source or distortion — namely, the varying accumulation margins — " gross coefficient of efficiency " (B) was introduced:

$$B = \frac{P - A}{D}$$

where: A = profit at last stage of processing (accumulation).

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[65] The following account is based on the following sources: Witold Trzeciakowski, " Problemy Kompleksowego Systemu Analizy Efektywnosci Biezacej Handlu Zagranicznego ", *Gospodarka Planowa*, Nos. 4-5, 1961; A. Borisyenko and V. Szastitko: " Voprosy ekonomicheskoi effektivnosti Vnyeshznei torgovli v socialisticheskikh stranakh ", *Vneshnyaya torgovlya*, No. 5, 1962; Balazsy Sandor: " W Sprawie Okreslania Ekonomicznej Efektywnosci Handlu Zagranicznego ", *Gospodarka Planowa*, August 1962; and a direct communication from the Hungarian Government (*op. cit.*, p. 108).

[66] Tibor Liska and Antol Marias, *Közgazdasagi Szemle*, No. 1, 1954. A summary of the Hungarian discussion on the subject appears in Balazsy Sandor's article in March 1957 issue of the same periodical.

[67] Developed mainly by Professor V. Cerniansky in several publications, summarized later in *Ekonomika Socialistickeho-zahranicniko Obhodu*, Prague 1961.

[68] Developed by A. Rolow in several articles, summarized in *Rachunek Ekonomiczny w handlu zagranicznego*, PWG, 1960, and by S. Polaczek: " Metody pomiaru efektywnosci handlu zagranicznego " in *Handel Zagraniczny*, 11-12, 1958.

[69] Hans Jürgens Nitz " Die Ausnutzung der Devisenrentabiltäts — Untersuchungen bei der Planung der Volkwirtschaft ", *Der Aussenhandel*, 10 February 1960.

This indicator relates the average domestic wholesale price of an exported good, *f.o.b.* the national frontier, net of profit occurring at the last stage of processing, to foreign currency brutto earnings *f.o.b.* the national frontier. It is a relatively easy coefficient to construct (since profits realized at the last stage of processing are always calculated), but it eliminates neither the profit margin distortions of earlier stages of processing (incorporated in the prices of domestic materials used) nor those caused by the arbitrary domestic pricing of imported materials. This latter source of distortion was particularly marked, since many commodities with fairly good *B* coefficients, due to distortions in the domestic prices of imported materials, were found to have an absolute negative efficiency in terms of foreign currency (i.e. the foreign currency value of imported raw materials exceeded the world-market price of the finished product). Hence, the domestic cost shown in the numerator of the coefficient is a very imperfect approximation of the total " social cost " of all stages of production. In short, the indicator fails to provide a correct answer to the question whether it pays to export a commodity incorporating imported raw materials.

The gross coefficient of efficiency can indicate which commodity to export *only* in cases where the following conditions are satisfied:

(*a*) when the existing domestic price system eliminates subsidies and ensures uniform accumulation (profit) margins;

(*b*) when the commodities in question do not contain imported or exportable raw materials;

(*c*) when the commodities in question do not limit other export possibilities (via competing claims in productive capacity, raw material reserves or limited import possibilities).

Since these conditions are difficult to satisfy in practice, the limitations of the coefficient are evident.

A last-phase labour cost indicator

In the search for a correct measure of efficiency in terms of labour costs and hence free of all the distortions arising from the domestic pricing of materials, a " last phase efficiency coefficient " (*L*) has been devised:

$$L = \frac{P - A - M_a}{D - M_f} = \frac{C_l}{D_l}$$

where: M_a — cost (measured in domestic prices) of all raw materials, semi-products and other material inputs used for the production of the final product

M_f — cost in foreign currency (measured in world market prices) of the same materials, calculated in M_a

C_l — last phase processing cost

D_l — net gain of foreign currency, earned at the last phase processing costs.

By focussing attention on the net gain in terms of foreign currency, this coefficient obviates the danger of choosing an export with a negative foreign currency efficiency (i.e. with a currency loss).

In the numerator, the domestic processing costs of the last processing phase are shown (i.e. from the *f.o.b.* domestic price, profits as well as all costs of materials used in production are eliminated); and in the denominator, the last stage foreign currency net gain appears (i.e. all material inputs evaluated in world prices and secondary expenses borne in foreign currency are subtracted from the *f.o.b.* world price).

This indicator is free from distortions caused by inadequate domestic pricing of materials, and it therefore provides a correct measure of the profitability of the last phase of the productive process. But the usefulness of this, as of the other indicators described above, is limited, inasmuch as it is commodities, and not phase of production, which enter into trade. It provides a correct indication of which commodity to export only in the following cases:

(*a*) when two alternative uses of processing imported (and unlimited) raw material are analysed. The coefficient may then be used to compare different commodities (even those originating in different industrial branches);

(*b*) when the effectiveness of consecutive stages of processing is analysed and one of them has to be chosen, but when the profitability of exporting the product of one of these phases has been decided *a priori*. In that case the question whether the former phases were profitable or not may be disregarded.[70]

(*c*) when no foreign demand and foreign supply limitations occur *and* when there are no differences between export and import prices (i.e. when transport costs, profits, etc. can be ignored). In that case the coefficient could be applied to all commodities. These conditions, however, very seldom obtain; in practice, there are normally limitations on foreign supply and demand and import prices differ essentially from export prices. Consequently, the applicability of this coefficient is very restricted.

Moreover, this index in its quotient form neglects the existence of limitations of various kinds (foreign supply and foreign demand, productive capacity, raw material reserves).

A coefficient of global efficiency in terms of labour costs

In order to find a correct measure of the effectiveness of all processing phases, expressed in terms of labour costs, attempts were made to construct a " global efficiency coefficient " (*G*):

$$G = \frac{C_g}{D - M_i}$$

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[70] The coefficient cannot be used as a guide to decision-making in cases where the early stages of processing are not profitable and the final stages are profitable. In such cases, even though the coefficient is promising, the export should be discontinued (unless there is no more choice, e.g. export from stocks). It would also be mistaken to rely on this coefficient when the early stages of processing are profitable but the last one has a bad indicator, and there is no foreign demand for the products of the former phases. In that case, despite the bad last-phase indicator, the final-stage product may be profitable.

where: C_g = the total labour cost of the commodity (i.e. direct and indirect labour costs). The " direct and indirect cost " includes the labour costs of processing in the given phase and material costs in that phase. These domestic material costs are expressed in terms of cumulated labour costs of all previous stages in the production of the commodity under consideration.

M_i = foreign currency value of imported raw material inputs.

Thus, the numerator comprises the direct and indirect domestic costs of processing the commodity, while the denominator consists of the foreign currency earnings resulting from domestic processing (imported raw materials being eliminated).

This indicator correctly indicates which commodities to produce for export, and in which order of priority, in cases where no limitations of raw materials and productive capacities occur (in common with all quotient formulae, it fails to take into account the volume of currency earnings). It does not take into account the existence of alternative uses (export or import) of material inputs. The main disadvantage of this indicator is the technical difficulty of calculating it correctly, for it presupposes the analysis of cost elements of all antecedent stages of production in terms of foreign currency as well as of domestic labour inputs. These difficulties being unsurmountable, this indicator has found no practical applications.

A coefficient of the labour efficiency of domestic phases

In an attempt to unite the advantages of the " last phase " and of the " global " coefficients, and also to reduce the technical difficulties of calculating the " global " indicator, an intermediate approach has been followed in constructing a " net coefficient of labour efficiency " (*g*), based on the formula:

$$g = \frac{C_n}{D_n}$$

where: C_n — domestic cost of production, net of the domestic value of materials considered as " exportable ". The domestic cost is calculated in such a way that material costs are also reduced to wages

D_n — world market price in foreign currency, net of the foreign currency value of imported and exportable materials.

This indicator differs from the " *L* " coefficient in that it provides a measure of effectiveness in terms of labour inputs which is not limited to the *last* stage of processing; and it differs from the " *G* " coefficient in that it does not necessarily measure in terms of labour inputs the effectiveness of *all* phases. What it does measure is the effectiveness of " domestic " stages of processing and it allows for the existence of alternative uses in foreign trade of material inputs. Again, however, the difficulty of estimating the labour cost of domestic stages sets limits to the calculation of wage-costs.[70a]

As was observed earlier, all the labour effectiveness quotient indicators described above neglect the existence of various restraints, notably shortages of raw materials and limitations of productive capacity. Yet, in all developing economies these limitations are decisive and therefore cannot be disregarded. If only a limited amount of raw materials is available for export, then a better labour efficiency indicator for the first than for the further, more refined, processing stages does not mean that the former is more profitable. Indeed, the opposite preference prevails — namely, to earn as much foreign exchange as possible from the limited raw materials available, and plainly the more highly processed, final products sell for much higher proceeds than the less-processed semi-products. In that case the order of priority may differ from that indicated by labour-efficiency coefficients. Hence, when raw materials are in short supply, coefficients of *material intensity* are constructed.

Coefficients of material intensity

These coefficients of material and import intensity are based on the following formulae:

$$M = \frac{M_f}{D}\,^{71} \qquad M' = \frac{M_e}{D} \qquad M'' = \frac{M_i}{D}$$

where: M_f — the value of all material inputs at world prices

M_e — the value of exportable and imported material inputs at world prices

M_i — the value of imported material inputs at world prices.

These diverse variants of " material intensity " and " import intensity " coefficients are used for comparisons of export commodities, and favour the export of commodities with lower material- or import-intensity coefficients.

The shortcomings of existing methods of efficiency analysis

The introduction of the various coefficients of the labour or material effectiveness of exports described above constituted an important first step towards introducing optimization criteria in foreign trade planning methods, which had previously been solely concerned with obtaining consistency. After some experience of their applicability had been gained, however, it became evident that the theoretical foundations of these coefficients were far from satisfactory and that a new more comprehensive approach to the problems of foreign trade optimization was needed.

In addition to the specific shortcomings already noted, the earlier techniques of effectiveness analysis had more general methodological weaknesses.[72] In the first place, the system of diverse coefficients provided partial, but not general, solutions by yielding different — and sometimes contradictory — orders of priority, depending on which indicator was used. Since, in short, all these coefficients were mutually inconsistent, no general rules of decision-making, based on them, could be formulated.

[70a] To assess the foreign currency content of exportable or imported material inputs, as well as the wage-cost of domestic processes, calls for a complex calculating procedure. The calculations start from basic raw materials, and proceed through semi-products to main final-stage products.

[71] In some countries an analogous coefficient is obtained in terms of domestic prices.

One of the gravest weaknesses of the early effectiveness analysis was the failure to include imports (except so-called "anti-import" production). Thus, an important segment of foreign trade turnover had no influence on foreign trade profitability calculations, despite the evident importance of differences in the prices for imported commodities on different markets.

Moreover, all the coefficients described earlier were calculated in world prices, disregarding the differences in the general price levels on different clearing markets and the different commodity structures established in bilateral clearing agreements. Plainly, in conditions of bilateral trade in inconvertible currencies, foreign exchange transactions cannot be accounted at their face value. A number of attempts were made to deal with this problem by building separate sets of coefficients for "free currency countries" and for "clearing countries". This procedure, however, considerably reduced the possibilities of comparing indicators for various markets. Besides, there remained the question of solving "mixed" cases, in which raw material inputs were imported from one type of market and final goods were exported to another.

To remedy this weakness attempts were made to construct overall price indices of geographical terms of trade. These indices (K_r) were intended to take into account the existence of differing price levels on various markets, and were derived from the following formula:

$$K_r = \frac{\sum_{i=1}^{n} D_i^r X_i^r}{\sum_{i=1}^{n} D_i^o X_i^r} \div \frac{\sum_{j=1}^{m} D_j^r Y^r}{\sum_{j=1}^{m} D_j^o Y_j^r} : \quad \begin{matrix} (i=1, 2, \ldots\ldots n) \\ (j=1, 2, \ldots\ldots m) \end{matrix}$$

where: D_i^r — price on market "r" of imported commodity "i"

D_i^o — world market price (taken as a basis) of imported commodity "i"

X_i^r — quantity of commodity "i" imported from market "r"

D_j^r — price on market "r" of exported commodity "j"

D_j^o — world market price (taken as a basis) of exported commodity "j"

Y_j^r — quantity of commodity "j" exported to market "r".

The coefficient K_r thus obtained has been used to express "clearing market" prices in terms of world market prices. In turn, however, the "K_r" coefficient was shown to have the following weaknesses:

(*a*) it could be calculated only for those commodities for which "world prices" existed (if, for example, the turnover with a given country consists mainly of machinery and equipment, this index cannot be calculated);

(*b*) the assumption that all commodities exported to a given market could also be exported in unlimited quantities to the "free currency" countries at world prices is frequently unrealistic and could, therefore, lead to false conclusions;

(*c*) the geographical price index K_r takes into account differences in price levels, not differences in the commodity structure of foreign trade. Assuming equal price levels in relation to world prices, different commodity structures when currencies are inconvertible call for differentiation among these currencies (the purchase of one dollar's worth of imported goods for domestically cheaper exports instead of for domestically more expensive exports makes all the difference).

The outcome of the numerous deficiencies of the earlier techniques of efficiency analysis has been that their usefulness for planning and decision-making has remained rather limited.

The requirements for comprehensive methods

For the range of application of efficiency criteria in planning and operative decision-making to be increased, they must take into consideration, first, all the relevant conditions obtaining in foreign trade (i.e. not only foreign prices, but also foreign supply and demand); second, all the relevant conditions obtaining in production (i.e. not only domestic costs, but also productive capacities and raw material resources); and, third, the treaty arrangements in foreign trade (convertible or inconvertible currency, multilateral or bilateral terms, etc.).[73] The use of mathematical model-analysis is helpful in meeting such complex requirements: it allows the construction of optimization criteria derived directly from a general model. These criteria contain central parameters, obtained from the overall analysis, which also reflect the preferences of the central planner. Once the criteria have been derived by mathematical methods and the central parameters have been calculated at the central level, the practical application of the efficiency criteria at the executive level can rely on traditional methods. For the system of efficiency analysis to be workable, however (i.e. if it has to be broadly used by planners and managers), it must be simple. The principle of profit maximization — measured in planners' opportunity costs or shadow prices — would appear to satisfy this requirement; for it renders efficiency calculations appropriate for practical decision-making at the executive level, while preserving the preferences of the central planner. The system of efficiency analysis must also be comprehensive, i.e. it must encompass the analysis not only of exports, but also of imports. Finally, efficiency analysis must meet the requirements of flexibility in decision-making, which is particularly important in the conduct of foreign trade.

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[72] The material under this heading is based on the article by W. Trzeciakowski, "Problemy Kompleksowego . . .", *op. cit.* and on the following: B. Wojciechowski, "Kursy Wynikowe Eksportu i ich Zastosowanie w Badaniach Efektywnosci Dewizowej Poszczegolnych Wyrobow Oraz Calego Wywozu", *Gospodarka Planowa,* January 1960; J. Glowacki, "Obroty handlu Zagranicznego a poziom dochodu narodowego", *Gospodarka Planowa,* December 1959; B. Najnigier, "W Sprawie Urealnienia Oraz Poglebienia Rachunku i Metody Badania Efektywnosci", *Gospodarka Planowa,* January-February 1960; J. Wierzbolowski, "O Oplacalnosci Eksportu Inaczej", *Handel Zagraniczny,* December 1959; and G. Otto, *Kennziffern zur Charakterisierung der ökonomischen Effektivität des Aussenhandels,* Hochschule für Ökonomie, Berlin 1962.

[73] Cf. W. Trzeciakowski, "Problemy Kompleksowego Systemu . . .", *op. cit.*; A. Nagy, "A Kulkereskedelem Tobb Variansos Eves Tervezese", *Kulkedeskedelem,* No. 10, 1962.

The central planning agency establishes the plan targets, and is the only organ which is fully informed of the overall position of the economy which conditions the effective realization of these targets. Nevertheless, it is clear that not all decisions concerning detailed targets can be taken at the central level. The central planning agency's knowledge of the detailed parameters of the optimization calculations is, in fact, limited. Hence, many decisions concerning resource allocation are best made within the producing units, where there is detailed knowledge of technology, of limitations of production capacities, alternative uses of these capacities, and of the raw materials used in production of various alternative commodities.

In foreign trade there is also an additional difficulty resulting from the fact that the central planning agency has no influence on such "external" parameters as foreign prices, supply and demand on foreign markets, etc. Changes in these parameters take place independently of the process of central decision-making concerning the structure and direction of foreign trade, which reacts to them with inevitable delays, with the result that irrational decisions are not ruled out. In consequence, it is necessary to delegate some of the competence of the central planning agency to individual enterprises. However, in order to assure consistency between these executive decisions and the general economic situation, central directives must be so framed as to achieve the most effective fulfilment of the plan from the point of view of the economy as a whole. Such central directives, in conjunction with the detailed plan instructions, would amount to a general criterion of effectiveness, containing synthetic parameters of optimization. These parameters would be established by the central planning agency on the basis of overall calculations, taking into account the current preferences of economic policy.

The system of effectiveness analysis is, therefore, primarily intended to determine, on the one hand, the operative criteria of effectiveness necessary for short-term planning at the central level, and, on the other, optimization criteria for the executive level.

A model for the optimization of foreign trade,[74] based on a general model of short-term overall economic planning,[75] has recently been developed in Poland; the main central parameters (marginal rates and shadow prices of basis raw materials) have been computed;[76] and the principle of profit maximization in terms of these planners' shadow prices has been introduced[77] as a guiding directive for executive levels in the plan-building process.

The presentation of the system, which follows, is devoted mainly to a general description of the basic assumptions of the short-term model and of the practical application of optimization criteria derived from that model.[78] It may be added that this new comprehensive approach was adopted by the Polish planners[79] in elaborating the 1966-1970 Plan, the application of the short-term model in medium-term plan formulation being possible owing to the fact that some 60-70 per cent of production capacity may be taken as constant in the medium term (in the sense that the capacity in course of completion is added to the existing stock).

A general model for the current optimization of the volume, commodity structure, and direction of foreign trade[80]

The starting point of constructing an overall model of short-run planning as a basis for foreign trade analysis is the need to satisfy final consumption and investment demand, as determined by the central planning agency, with a minimum outlay of labour. The possibility of satisfying these elements of final demand either through domestic output or through imports is considered (stocks and reserves being included in final demand). In other words, the structure and the level of final domestic demand, as prescribed by the national economic development plan, are taken as directive initial data, determining the optimal choice of the remaining parameters, which are treated as secondary. Thus, the task can be reduced to determining the output of individual commodities, and foreign trade in those commodities, at levels which will satisfy final demand as prescribed by the plan, with the minimum outlay of labour, measured in man-hours multiplied by existing wage-rates.

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[74] Cf. W. Trzeciakowski, "Model Optymalizacji Biezacej Polityki Kierunkowej w Handlu Zagranicznym", *Gospodarka Planowa*, Nos. 8-9, 1960, and "The Model of Optimization of Foreign Trade in a Centrally Planned Economy", *Proceedings of the Regional Science Association, The Hague 1961* (edited by W. Isard), New York 1962.

[75] J. Mycielski, K. Rey, W. Trzeciakowski: "Decomposition and Optimization of Short-run Planning in a Planned Economy" in *Structural Interdependences in Economic Development* (edited by T. Barna), London 1963.

[76] By the Polish Foreign Trade Research Centre in 1963 and 1964 — see *Prace Zbkc*, Nos. 1, 3 and 4.

[77] "Podsumowanie Dotychozasowych Wynikow Pracy Komisji Mieszanej..." (summary of work done by an intergovernmental body headed by Professor M. Kalecki), *Gospodarka Planowa*, No. 11, 1963.

[78] For the mathematical derivation of the system and a description of the statistical methods used to derive the central parameters, see W. Trzeciakowski, *Methods for the Determination of the Marginal Rate and Simplified Methods for Analysis of the Effectiveness of Foreign Trade*, Foreign Trade Research Center, Warsaw 1964.

[79] Cf. J. Glowacki and B. Wojciechowski: "Problemy Efektywnosci Handlu Zageanicznego", *Zycie Gospodarcze*, No. 37, 13 September 1964.

[80] The model was developed by A. Legatowicz, J. Mycielski, K. Rey, W. Piaszczynski and W. Trzeciakowski, initially under the aegis of the Polish Academy of Sciences, Committee of Production Location, headed by Professor K. Secomski: see *Studia KPZK Tom II* (edited by J. Drewnowski), Warsaw 1961.

The tasks of the central planner, however, consist not only in determining final demand, but also in setting, *a priori*, certain levels of output, of imports and of exports which limit or correct the range of optimization calculation in respect of the international division of labour, owing to:

(1) the need to assure the domestic industrial base for stable economic growth independently of external influences, to determine the desired structure of the economy and to render development less dependent on world trade cycles, fluctuations, etc.

(2) the need to protect developing branches of the economy in which domestic labour productivity is currently low, but which will approach the world level of productivity once they are working at full capacity.

(3) the need to take into account the preferences incorporated in current state policy in respect of employment, international obligations, economic equilibrium, etc.

In all such cases outputs, imports and exports are not treated as variables, but are included in the system at predetermined levels.

The formulation of the model proceeds as follows.[81] First, there is a set of commodity equations for the satisfaction of planned domestic final demand (domestic production *minus* intermediate uses *plus* imports *minus* exports is equal to final demand). Second, there is a set of equations for the satisfaction of planned balances of foreign trade with foreign markets (the sum of receipts for exports to a given market *minus* the sum of outlays on imports from that market must equal the planned balance of trade with that market). Third, a set of conditions and restraints has to be observed to ensure that the planned level of production does not exceed available capacity and that the levels of exports and imports do not exceed demand and supply on foreign markets. Finally, of all the possible solutions meeting the above requirements (i.e. of all feasible plans) the variant chosen should be the one which ensures the minimum outlay of labour in terms of labour costs.

The overall model of optimization thus formulated takes into consideration technological and economic interdependences, but owing to insurmountable difficulties of computation it cannot be applied. The mathematical principle of decomposition[82] is taken as the basis for the practical solution of this problem. The general optimum of the overall plan is found by decomposing the global plan into partial plans (of industrial trusts) and of solving smaller partial optimization problems instead of the global one.

Any global optimal solution implies the existence of a system of shadow prices which makes it possible to judge whether each part of the plan, considered separately, is correct. The existence of such a system is a sufficient condition for the plan to be optimalized. The opposite is also true — i.e. when the plan is not optimal, it is impossible to find a corresponding set of shadow prices.

Thus, the shadow prices are an instrument for optimizing the plan. From the economic point of view they contain full processing costs, encompassing all phases of production, corrected by allowances for scarcity and for potential exports and imports.

When the following values are known

(1) the value of shadow prices — l_k — for basic raw materials originating outside the group under consideration,

(2) the values of shadow prices — M^r — of separate foreign currencies indicating how many units of domestic currency will be paid — as costs — in order to obtain a unit of currency of market r,

— it is possible to arrive at the optimum for a given group, thus optimizing the overall solution at the same time. It can be proved that an overall optimum may be reached through partial optima; in that case, partial plans must fulfil the requirement of maximizing the following profit criterion:

$$\sum_{r} M^r \; D^r - C = \text{maximum}$$

where: M^r — is a set of marginal rates of structural and directional effectiveness for separate markets ($r = 1,\ 2,\ \cdots 5$). The values of these central parameters are determined by the central planning agency on the basis of an overall analysis of the plan. Their initial values are determined on the basis of statistical calculations and initial planning corrections, and their final values are found on the basis of an iterative procedure of " planning and counter-planning ".[83]

An increase in the rate of M^r leads to a rise of exports to a given market and a lowering of imports from it, thus positively influencing the balance of foreign trade. The reverse effect results from lowering the rate M^r. The optimum level of M^r leads to the required balance with the given market. Thus, by establishing marginal rates for separate markets, the central planning agency can determine, in a " directive " but elastic manner, the parameters of the criterion, according to the results of the overall calculations and to the preferences of economic policies.

D^r stands for the surplus of foreign currency in trade with market r in interrelated commodities;[84] and this surplus is included in the alternative of the plan considered. By computing successive products $M^r \; D^r$ it is possible to express in domestic currency the value of foreign currency gains obtained on various markets, which thus have comparable values, and can be aggregated as the joint effect in foreign currency:

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[81] See the econometric annex to this section.

[82] Worked out by J. Mycielski *(op. cit.)* on the basis of: L. N. Kantorovitch, *Ekonomicheski raschet nailutshego ispolzovaniya resursov*, Moscow 1960, and G. B. Danizig, P. Wolfe: " Decomposition on Principle for Linear Programme ", *Operation Research*, No. 1, August 1960. A similar procedure is advocated by J. Kornai, " Mathematical Programming of Long-term Plans in Hungary ", paper presented at the Conference on Activity Analysis, Cambridge, June 1963.

[83] The iterative procedure is advocated by T. Kronsjö: " Iterative Pricing for Planning Foreign Trade " in *Economics of Planning*, Vol. 3, No. 1, April 1963.

[84] The selection of these groups of interrelated commodities is also of great importance for the internal organizational structure of industry — e.g. in delimiting the boundaries of a firm or trust.

$$\sum_r M^r D^r \cdot$$

This joint effect is the difference between total export receipts and total import expenses in the given alternative of the plan. Thus, for example, if the production and foreign trade plans for five interrelated commodities are analysed (three of which are raw materials for the remaining two, and all or some of which are in domestic demand for consumption or investment), each feasible alternative of the plan must satisfy domestic demand and also lead to a definite commodity structure of exports and imports. For instance, one plan variant may provide for the export of finished products and import of raw materials, and the other for exports of raw materials and imports of finished products to satisfy domestic demands, etc. In each of these alternatives the foreign currency effect:

$$\sum_r M^r D^r$$

is computed, taking into account exports and imports of all the five commodities considered. If imports prevail, then

$$\sum_r M^r D^r$$

is negative; if exports prevail, it is positive.

C stands for the joint labour costs of the group of activities considered in the given alternative of the plan, and the value of material inputs from outside this group, derived from shadow calculation prices. Joint labour costs are defined as comprising the labour costs of all consecutive processing stages entering into the group of activities under consideration in a given plan variant. They include the labour costs of the final stage and also the labour costs of previous stages contributing to the cost of material inputs of the last stage for those material inputs which are produced within the group of activities considered. Amortization[85] is not included in these costs, since for purposes of current optimization it is not investment decisions, but only optimal allocation of existing capacities, which is relevant.

The value of material inputs from outside the group is, as far as possible, computed at accounting prices.[86] These prices include direct and indirect import costs, and the export prices of commodities actually exported, converted into domestic currency on the basis of structural and directional rates M^r, and also the remaining costs of domestic process after the deduction from them of accumulation at all stages. In certain cases, the accounting prices are corrected by a scarcity factor (restrictions on production and on supply and demand).

These accounting prices should, in principle, be computed by the competent trusts or foreign trade enterprises, on the basis of their accounting data, and under the supervision of the central planning agency. There is a central list of accounting prices of essential materials which permits the correct evaluation of the costs of material inputs, i.e. of the correct calculation of effectiveness at the executive level. If it were possible to set up a complete list of shadow prices for all materials involved in foreign trade, then the choice of alternatives optimizing the plan of a given trust would also lead to the optimization of the overall solution — i.e. to the optimization of the aggregate plan.

Since the scope for using operational calculations to compute shadow prices is limited, the need for and use of simplified methods in computing the costs of material inputs is presupposed (such methods are noted in the description on the indicator of effectiveness E^r_k).

Maximization of $\sum_r M^r D^r - C$ as a criterion for the choice of alternatives at the executive level can be effected either by straightforward intuitive choice among the alternatives under consideration (the best of which should be chosen), or else by means of operational calculation, leading to the choice of the optimal solution.

A simplified illustration of the model

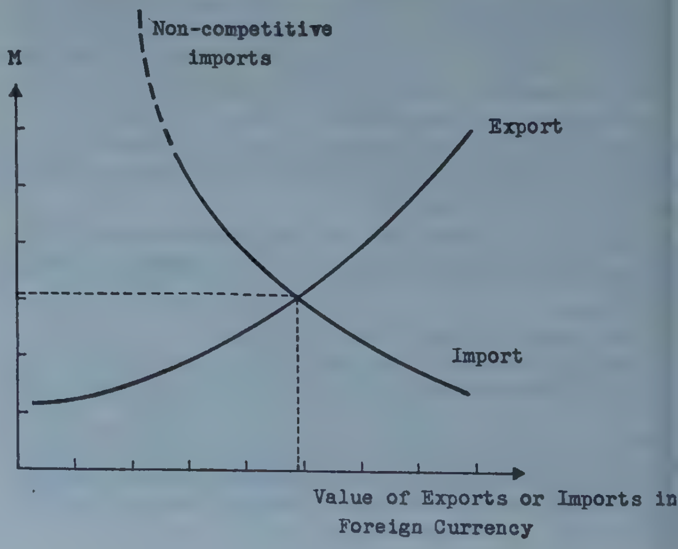
The role of M^r as a parameter of optimization at the central level, and the application of the profit maximization criteria at the executive level, may be explained by means of the following simplified case.

Assume, for the sake of simplicity, that trade is limited to one foreign market, and that given import requirements must be paid for by exports. If, on the basis of the analysis of the export list, commodities are ranked according to increasing ratios:

$$\frac{\text{domestic cost outlays}}{\text{foreign currency earnings}},$$

then the last export commodity to appear on the list will determine the marginal ratio for the foreign market in question. This marginal ratio (M) expresses the maximum amount of domestic currency that should be spent for earning one unit of foreign currency. It is determined by the intersection of the import and export curves.

CHART 6



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[85] Except for the wear and tear deriving from the activities considered.

[86] These prices should approximate the shadow prices. Cf. J. Glowacki: " Metodyka Ustalania cen Kalkulacyjnch dla Podstawowych Surowców z Punktu Widzenia Rachunku Efektywhosci ", *Prace ZBKC*, Warsaw 1963.

The foreign trade efficiency calculations rely on two kinds of magnitudes: cost outlays in domestic currency, and earnings in foreign currency. In order to compare both magnitudes, the means of converting domestic currency into foreign currency, and vice versa — by using either a mean or a marginal coefficient — must be known.

Assuming, further, a decrease in import requirements as a result of import substitution, the last commodity on the export list — the one with the highest indicator — will then be cancelled. One unit of foreign currency cancelled will save an amount of domestic currency equal to the value of the marginal rate. The profitability of creating import-substituting capacity will be determined by comparing the domestic costs it requires with the marginal outlays of export production used so far. This shows that marginal, not mean, values are suited to decision-making. As foreign trading and industrial enterprises are not aware of all the actual costs to foreign currency ratios in the economy as a whole, it is the duty of the central planning agency to obtain and supply this information to the executive units, thus enabling them to make rational choices.

If it is possible to compare foreign currency earnings (D) with domestic outlays (C), the functioning of the profit maximization criterion may be explained as follows. Export is profitable if foreign currency earnings converted into domestic currency at the marginal rate exceed the domestic costs, i.e.

$$MD > C \quad \text{or} \quad MD - C > 0$$

Thus, the export is efficient if the value obtained for profit is positive. If two alternative solutions are compared, the one which yields the higher profit will be chosen:

$$MD_2 - C_2 > MD_1 - C_1$$

or

$$MD - C = \text{maximum}.$$

This criterion takes into account the volume of foreign currency earnings and the level of costs, thus allowing all limitations occurring in production and trade to be taken into consideration.

If the simplifying assumption of the existence of one single foreign market is dropped, M^r should be substituted[87] for M to obtain the general criterion for optimizing the commodity structure and direction of foreign trade:

$$\sum_r M^r D^r - C = \text{maximum}.$$

The above criterion is used for solving optimization problems in the context of constant productive capacities. The basic model is reformulated for cases where "fast recuperating" investments intended to expand capacities strictly connected with foreign trade are analysed. Then the problem consists in finding the optimal allocation of the total investment funds earmarked for the expansion of productive capacities in foreign-trade oriented industries. The criterion derived from such a model is based on the following formula:

$$\sum_r M^r D^r - C - q\,I = \text{maximum};$$

where: I = investment required

q = coefficient expressed as a percentage. The value of q is determined by the assessment of economic effects which could be obtained if the necessary investment resources could be used elsewhere in the economy.[88]

The indicator of effectiveness E^r_k and the principles for its calculation

The criterion for a choice of alternatives, discussed above, permits the use of reserves which are accessible only to the executive level, at which existing conditions and restrictions in technology and trade are better known.

The central level also has to take important optimization decisions parallel to those at the executive level. Since its decisions determine those taken at the executive level, there must be "central book-keeping" of the optimization calculation in order to verify the adequacy of the parameters M^r, K^r, etc. (see below) transmitted as directives to the executive levels. The verification of these central parameters must be closely connected with the foreign-trade planning system.

The construction of indices of effectiveness for individual foreign trade commodities should provide a statistical basis for verifying and bringing up to date the M^r rates. In addition, the indices of effectiveness permit control of the correct use of the optimization criterion:

$$\sum_r M^r D^r - C = \text{maximum, at the executive level.}$$

Indices in the quotient form cannot be a substitute for the above subtraction form, since the latter simultaneously comprises the level of profits, production limitations, and constraints on supply and demand in the outside world. For this reason, only a criterion written in the form of a subtraction can supply an answer to the essential question for sectoral optimization solutions — namely, which is better?

On the other hand, the central level needs an instrument which will indicate which elements of the preliminary plan proposals submitted by the executive level should be cancelled. Indices expressed as fractions can be adequate for this purpose, since they can serve as a means of ranking commodities belonging to various groups of interrelated activities — i.e. for the comparison of various groups (since outputs of different branches or groups are not, as a rule, competing for the same material inputs). It follows that the central level requires an index which can be computed for all commodities (or for a large number of "sample" commodities), and which should be capable of performing the following functions: (*a*) bringing up to date the M^r rates; (*b*) verifying the use of the optimization criterion at the executive level; and (*c*) ranking of all commodities (or "samples") from various groups and the cancelling of "non-profitable" items, as well as the evaluation of the overall commodity and the directional structure of the central foreign trade plan.

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[87] Assuming bilateral trade arrangements and the lack of free convertibility, the differentiation of M by markets ($r = l, \dots n$) is determined by three factors: (*a*) differences in the price level in relation to the world market price level; (*b*) the commodity structure of the foreign trade turnover with different markets; and (*c*) the balance of trade objectives.

[88] The nature of this coefficient is explained in section 6 above.

It is known from theoretical considerations that the only valid and accurate solution, encompassing all the factors last mentioned, would require the use of a complete system of shadow prices (l_k). Since, however, these prices are not available, other practical solutions must be sought. These will not be optimal, but will be more realistic than those traditionally used. It should be emphasized that any practical solution will have to be a compromise between the postulated precision of the criterion and the possibilities of its practical application.

Such a coefficient of effectiveness E for commodity k on market r is written as:

$$E_k^r = \frac{c'_k}{K^r \, d_k^r}, \text{ where:}$$

c' — total costs expressed in domestic currency, comprising labour costs and costs of material inputs;

K^r — rate of directional effectiveness for market r, expressing the ratio between the marginal rate for this market (M^r) and the marginal rate of the basic currency (M^o);

d_k^r — average price expressed in foreign currency of commodity k, obtained for experts (*f.o.b.*) to market r, or paid for imports (*c.i.f.*) from market r (in cases of import substitution).

$K^r \, d_k^r$ — the total in the basic currency.

The calculation of c'_k (the numerator of the coefficient E_k^r) proceeds as follows:

1. Labour costs are assumed on the basis of data obtained from calculation of the enterprise's own costs.

2. Costs of material inputs are calculated on the basis of,

(*a*) $M^r \, d_k^r$ — i.e. on the basis of the product of the marginal rate of the given market and the export price (*f.o.b.*) expressed in foreign currency for these material inputs which are exported (and exports of which may also be increased). If several markets are considered the lowest product $M^r \, d_k^r$ is accepted.

(*b*) $M^r \, d_k^r$ — i.e. on the basis of the product of the marginal rate of the given market, and the price paid for imports (*c.i.f.*) expressed in foreign currency, for these material inputs which are imported (and imports of which may be increased). If several markets are considered, the highest product $M^r \, d_k^r$ is, as a rule, accepted.

(*c*) costs in domestic currency (or on the basis of domestic prices) in all other cases.

If the share of imports in the value of material inputs, calculated on the basis of domestic prices (as indicated under point (*c*) above) is high, and if the share of the costs of material inputs thus computed in total costs c'_k is also high, the calculation of the costs of the materials computed in domestic prices can be substituted along the lines set out in points (*a*) and (*b*) above — i.e. the previous stage may be investigated. This procedure can be repeated until the share of material inputs is obtained, computed in domestic prices, and amounting to an admissible level of total costs c'_k.

Information on current prices expressed in foreign currency is obtained directly from the foreign trade enterprises, and information on domestic costs (prices) from the producing units. The costs of material inputs and labour, calculated in the manner described, include the approximate total costs of all processing stages and incorporate corrections to the costs of imported or exported material inputs.

The index E_k^r can also be calculated on the basis of planning parameters instead of statistical parameters (i.e. anticipated prices expressed in foreign currency and domestic costs), in accordance with the principles described above. For the reasons given below, the E_k^r index represents an acceptable compromise between the requirements of theoretical correctness and of practical applicability. In the first place, it includes directional differentiation, and in large measure eliminates distortions arising from amortization allowances. Moreover, it is an index which provides a measure of the effectiveness of all domestic processing stages, except those in which actual alternatives of imports and exports exist. This deviation from the exact measure of direct and indirect labour costs towards actual alternative costs of exports and imports is correct from the point of view of rational decision-making in foreign trade; for what is essential is not the measurement of costs, but the taking of decisions which result in minimizing the costs to the economy as a whole. Finally, in common with all earlier indices, the E_k^r index does not include "scarcity" levies, since these can be included only when the results of operational calculations for groups of interrelated activities have been obtained. It is apparent that from the point of view of correct calculation of effectiveness — i.e. the correct evaluation of material inputs including the scarcity factor — the central level must take the initiative in preparing lists of calculated prices which are of great help in estimating costs of material inputs at the executive level. These calculations have to be made primarily for raw materials and basic materials.

The connexion of optimization methods with the foreign trade planning system

The theoretical method for optimizing the general plan, by means of partial optimizations based on the set of M^r rates and on shadow prices l_k, is an abstract model which results in a better understanding of the mechanism of the interrelations among such factors as rates of exchange, shadow prices, balances of foreign currencies, restraints on output and trade, technological coefficients, etc.

In practice the optimal values of M^r and l_k are unknown, and there are no inherent connexions between the systems of effectiveness analysis, premia and accounting. Relations with foreign trade partners are often based on predetermined trade quotas, which lead to a discontinuity of price functions, depending on the level of reciprocal trade. Moreover, the economic positions of trade partners are liable to change rapidly, which calls for direct adjustment of the plan rather than indirect changes by means of the recalculation of M^r.

In such situations the principle of assuring the consistency of the plan with the preferences of the central planner means that structural and directional decisions must be taken at the central level and implemented by means of directives. These directives, in turn, influence the level of M^r rates of exchange. Thus, central decisions determine the solutions reached at the executive levels, by means both of directives (directions and restrictions), and also of the indirect results of these directives (the recalculation of the M^r and K^r rates).

The traditional planning system is taken as the starting point, since it is almost exclusively based on the balance method (see also section 5) and is implemented by central directives. Partial optimization is achieved on the basis of indices of effectiveness: items with poor indices are removed from the plan and replaced by those with better indices.

In order to obtain a closer connexion between the foreign trade planning system and the requirements of the effectiveness calculations, it is necessary to improve practical planning methods by the following means:

(*a*) by closely linking the set of structural and directional rates of effectiveness to the current commodity and foreign exchange objectives of foreign trade

(*b*) by differentiating the rates according to basic geographical areas

(*c*) by analysing the effectiveness not only of exports but also of imports

(*d*) by introducing the criterion of a choice of alternatives into planning practice at the executive level, and linking partial optimization with overall optimization.

The rates of structural and directional effectiveness are transmitted by the central planning agency to the foreign trade enterprises, together with such conditions and restrictions concerning the structure of exports and imports as result from treaty obligations and foreign currency objectives.

On the basis of these central directives, the foreign trade enterprises: [89]

(*a*) choose alternatives of the plan, on the basis of the application of the following criterion by producing enterprises:

$$\sum_r M^r D^r - C = \text{maximum};$$

this is done in co-operation with the relevant producing trusts or enterprises;

(*b*) calculate the effectiveness indices of exports for separate commodities (or samples) —E_k^r;

(*c*) verify whether the directions for exports of given commodities, according to the growing index E_k^r, are correct;

(*d*) rank their export proposals for each market according to the values of the index E_k^r;

(*e*) determine the origin of imports of individual commodities, by reference to the increasing product $M^r d^{Ir}$;

(*f*) list the values of imports from separate markets, expressed in foreign currency.

On the basis of the indices E_k^r contained in the export proposals (point (*d*) above), and of the value lists of commodities to be imported from separate markets (point (*f*)), the central planning agency determines the structural and directional allocation of exports and imports by (i) ranking the aggregated groups of export commodities, from the most to the least profitable ones, by markets; by (ii) ranking import proposals according to markets; by (iii) introducing the interrelations of imports and exports in clearing agreements; and (iv), on the basis of (i), (ii), and (iii), by establishing a composite import and export plan for each market, as well as by analysing and balancing foreign currency balances.

The balancing of foreign currency balances runs as follows:

— If the balance with a given market is too high, the planner eliminates export items according to diminishing indices E_k^r (for a given r).

— If the balance with a given market is too low, the central planner includes in the plan further export items according to the growing index E_k^r; these items are selected in the first place from the items cancelled for other markets.

— If it is impossible to balance imports by means of available export commodities, the central planner achieves the balance by shifting imports.

A structural and directional allocation of this kind leads to the determination of balances at the required level, while a change of the structure leads to new structural and directional rates of exchange. With a list of E_k^r indices for such an export plan to a given market, and knowing the results of the analysis of imports, the central planning agency corrects the initial values of the M^r rates for the next plan period. Thus, frequent changes of the set of rates during the planning process can be avoided, and the optimization of the structure of the foreign trade plan takes place gradually over a longer period.

Conclusion

The new Polish methods of measuring the profitability of foreign trade transactions aim at improving plan formulation in the field of foreign trade by applying optimization techniques within a system of direct planning and by subordinating the decentralization of decision-making to the requirements of the central plan. It is, of course, recognized that there are limits to effective central planning of the detailed commodity and geographical pattern of foreign trade: very numerous decisions are inevitably taken at the executive level. However, in order to prevent these decisions being taken haphazardly, or being in conflict with the intentions of the central planner, the new system sets out to create a mechanism of self-regulation which, although limiting the direct interference of the central planning agency in executive decision-making, evidently strengthens central planning by imposing rational overall preferences even at the executive level. It follows that the new Polish system of foreign trade planning cannot be considered as a step towards the wider acceptance of the market mechanism in the traditional sense — i.e. independent from the central planner.

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[89] Cf. " Podsumowanie Komisji Mieszanej Do Oceny Metod Badania Efektywności Handlu Zagranicznego ", *Gospodarka Planowa*, No. 11, 1963.

The Polish experiment described in this section is ambitious, far-reaching — and extremely difficult. As the first practical application, introduced quite recently, of an overall model to the operation of a centrally planned economy, it is too early yet to judge its practical results and it is still in the course of development. It seems, however, that the practical success of the new system will depend on the range of its application. If the system of efficiency analysis is limited to the sphere of plan formulation, it will certainly rationalize central decision-making; but the role of optimization criteria would thereby be restricted, because at present all incentives are based on prices actually paid and received, which implies that shadow prices have no influence whatsoever in the course of plan implementation. Since in practice the discretionary powers left to management in the process of plan implementation are quite considerable, particularly in enterprises producing for export, there is obviously a contradiction between existing criteria of successful management and the criteria of foreign trade optimization.

For this contradiction to be overcome would require a complete revision of the premium and financial system of enterprises in close contact with foreign trade, a far-reaching revision of the price system, or, most probably, a combination of both approaches. In this context it should be noted that the application of the new system creates a rational basis for improving these aspects of the price system and the organization of the economy which are connected with foreign trade.

In this section — and particularly in its last sub-section — the Polish system has monopolized attention simply because it has been put into operation and is representative of new lines of economic theory and research. However, analogous work is proceeding in other countries,[90] too, in order to find a practical solution to these problems, based both on traditional planning methods and mathematical and statistical techniques.[91] The considerable attention devoted to the practical solution of overall economic optimization problems based on iterative procedures, the application of operational research methods to industrial problems,[92] and the further development and practical application of efficiency criteria to new fields of planning [93] all indicate that these new methods are gaining increasing acceptance in several countries.

Econometric Annex to section 7

The following notations are used:

x_j — the level of activity j (e.g. of a certain processing phase of a certain commodity by means of a certain technique), in physical units,

y_k^{Er} — exports of a commodity k to market r in physical units,

y_k^{Ir} — imports of commodity k from market r in physical units,

a_{kj} — technological coefficient determining output (if $a_{kj}>0$), or input (if $a_{kj}<0$) of commodity k per unit of activity j,

P_k — domestic demand for commodity k for consumption and investment, in physical units,

d_k^{Er} — export price *f.o.b.* of a physical unit of commodity k on market r expressed in the currency of market r,

d_k^{Ir} — import price *c.i.f.* of a physical unit of commodity k on market r expressed in the currency of market r,

S^r — planned balance of trade with market r expressed in the currency of market r,

b_j — maximum capacity j (highest possible level of production activity j) in physical units,

π_k^{Er} — demand for commodity k on market r,

π_k^{Ir} — supply of commodity k for import purposes on market r,

c_j — unit cost of activity j (including labour costs only, and excluding costs of material inputs, amortization and accumulation),

n — the number of production activities,

s — the number of foreign markets,

m — the number of commodities.

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[90] The Polish model described in this section has recently been used by planners in east Germany in two fields: first, in the optimization of the geographical pattern (but not the commodity structure) of foreign trade at the level of the Ministry of Foreign Trade; and, second, in the optimization of both the geographical and commodity structure of the foreign trade plans of a small number of individual industrial trusts, making use of operational research methods. These trial applications of the model are now being followed by the extension of its use more generally.

[91] Research is being conducted by L. N. Kantorovitch in the Soviet Union; J. Mycielski, K. Rey, and K. Porvit in Poland; T. Kronsjö in Sweden; and J. Kornai and T. Liptak in Hungary.

[92] Research in this field is being conducted by A. Nagy in Hungary; W. Piaszczynski in Poland; and G. Grote in east Germany.

[93] B. Wojciechowski, Y. Glowacki, H. Jaroslawska, F. Kubiczek and W. Rydygier in Poland; A. Marton, M. Tardos, T. Liska, B. Csikós-Nagy, A. Bródy, S. Balázsy in Hungary; and G. Otto in east Germany. See also Proceedings of the Meeting of Foreign Trade Institutes of CMEA countries in Sofia in 1964 published as Miezdvarodnaja Konferencja po voprosam Rentabelnosti Vnieshnej Targovli, Foreign Trade Institute of Bulgaria, Sofia 1964.

The expression $\sum_{j=1}^{n} a_{kj}\, x_j$ determines the final product of commodity k in physical units. Thus, equations for the satisfaction of planned, domestic final demand can be written as:

$$\sum_{j=1}^{n} a_{kj}\, x_j + \sum_{r=1}^{s} y_k^{Ir} - \sum_{r=1}^{s} y_k^{Er} = P_k \quad (k=1,\ldots\ldots m) \quad (1)$$

The following equations express planned balances of foreign trade with foreign markets:

$$\sum_{k=1}^{m} d_k^{Er}\, y_k^{Er} - \sum_{k=1}^{m} d_k^{Ir}\, y_k^{Ir} = S^r \qquad (r=1,\ldots\ldots, s) \quad (2)$$

For the plan to be feasible, inequalities should be introduced which ensure that the planned level of production activities will not exceed available capacities, and the levels of exports and imports will not exceed demand and supply on foreign markets. These inequalities are:

$$0 \leqslant x_j \leqslant b_j \qquad (j=1,\ldots\ldots m) \quad (3)$$

$$0 \leqslant y_k^{Er} \leqslant \pi_k^{Er} \qquad (k=1,\ldots\ldots m),\ (r=1,\ldots\ldots s) \quad (4)$$

$$0 \leqslant y_k^{Ir} \leqslant \pi_k^{Ir} \qquad (k=1,\ldots\ldots m),\ (r=1,\ldots\ldots s) \quad (5)$$

The plan, i.e. the set of: x_j, y_k^{Er}, and y_k^{Ir} fulfilling conditions (1)-(5) presents the admissible plan; if this plan is to be optimal, the outlay of labour necessary for its fulfilment should be at the minimum level.

This condition can be written as:

$$\sum_{j=1}^{n} c_j\, x_j = \text{minimum} \qquad (6)$$

It has been proved[94] that the overall optimization of the above problem can be reduced to optimizing partial problems on the basis of the following criterion:

$$\sum_{i=1}^{a} a_{kj}\, x_j + \sum_{r=1}^{s} y_k^{Ir} - \sum_{r=1}^{s} y_k^{Er} = P_k - \sum_{j=a+1}^{n} a_{kj}\, x_j^o$$

$$(k=1,\ldots\ldots, \beta),$$

$$0 \leqslant x_j \leqslant b_j \qquad (j=1,\ldots\ldots, a)$$

$$0 \leqslant y_k^{Er} \leqslant \pi_k^{Er} \qquad (k=1,\ldots\ldots, \beta;\ r=1,\ldots\ldots, s)$$

$$0 \leqslant Y_k^{Ir} \leqslant \pi_k^{Ir}$$

$$\sum_{r=1}^{s} M^r \sum_{k=1}^{\beta} (d_k^{Er}\, y_k^{Er} - d_k^{Ir}\, y_k^{Ir}) - \sum_{j=1}^{a} \Big(c_j - \sum_{k=\beta+1}^{m} l_k\, a_{kj}\Big) x_j = \text{maximum}$$

where: x_j^o = activities in the rest of the economy.

In the optimum solution of problem (1)-(6) the following conditions are fulfilled:

$$l_k \begin{cases} \geqslant M^r d_k^{Er}, \text{ when } y_k^{Er} = 0, \\ = M^r d_k^{Er}, \text{ when } 0 < y_k^{Er} < \pi_k^{Er}, \\ \leqslant M^r d_k^{Er}, \text{ when } y_k^{Er} = \pi_k^{Er}, \end{cases}$$

$$l_k \begin{cases} \geqslant M^r d_k^{Ir}, \text{ when } y_k^{Ir} = \pi_k^{Ir} \\ = M^r d_k^{Ir}, \text{ when } 0 < y_k^{Ir} < \pi_k^{Ir} \\ \leqslant M^r d_k^{Ir}, \text{ when } y_k^{Ir} = 0. \end{cases}$$

$$l_k \left\{ \begin{matrix} \geqslant \\ = \\ \leqslant \end{matrix} \right\} c_k - \sum_{\substack{j=1 \\ j=k}}^{n} a_{jk}\, l_j \left\{ \begin{matrix} x_k = b_k \\ 0 < x_k < b_k \\ x_k = 0 \end{matrix} \right.$$

If the solution actually obtained does not greatly depart from the optimal one, then with approximate values of M^r reasonable values of l_k for the first iteration steps can be obtained from the above conditions.

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[94] J. Mycielski, *et. al.*, in *Structural Interdependences and Economic Development*, *op. cit.*

CHAPTER V

PLAN IMPLEMENTATION IN WESTERN EUROPE

A. The industrialized countries

1. INTRODUCTION

This chapter is devoted to a discussion of the instruments of plan implementation that are available in western European mixed economies; the industrialized countries are considered first. The adequacy of the instruments of plan implementation at the disposal of these countries and the efficiency with which they have been used must be viewed in relation to the premises and objectives of policy in the countries concerned. As noted in Chapter I, their basic political, social and economic premises have been essentially very similar. Decentralized decision-making and a desire to interfere with the market mechanism only to the minimum extent necessary to achieve priority objectives are common features. The latter is a significant constraint, even when prevailing attitudes to economic policies reflect the view that the market mechanism is not able to bring about all the structural changes that are conducive to growth and stability in the longer run.

Nevertheless, governments in these countries are in a position to exercise a strong influence on economic developments, should they so desire. Through its mere size, the public sector[1] automatically affects economic developments, while the provision of a number of important economic and social services, often requiring substantial expenditures on infrastructure, are largely subject to decisions by political authorities. In addition, of course, all governments have at their disposal a large arsenal of policy instruments — fiscal, credit, monetary and, mainly in exceptional circumstances, also various forms of direct control — which they have used for steering the economy along the desired path even without the existence of a plan. Broadly speaking, these policy instruments can be divided into " global " and " selective ", by reference to the purposes which they are supposed to serve and to whether or not their impact on specific parts of the economic system is intentional.

Global policy instruments are used primarily for influencing the general level of activity and the relationships between the major aggregates of national expenditure and income. Measures applied to influence the degree of liquidity of the economy, the levels of government expenditure, revenue and taxation and other measures designed to influence the disposable income of broad income groups, irrespective of the regions and branches of economic activity to which they belong, are examples of such instruments. Global measures will, of course, have a different impact on various activities, but such differences are incidental. Selective policy measures, on the other hand, are used deliberately, by reference to economic and social criteria, for influencing specific parts of the economic system and tend, therefore, to discriminate among branches of economic activity and/or regions.

Selective policy instruments may be used to supplement global policy instruments and may, therefore, also serve general policy objectives. Thus, the use of duties to limit imports and of subsidies to promote exports may be dictated by considerations pertaining both to the overall level of activity and to individual branches or regions. However, these policy instruments have become less important during the postwar period as a result of the liberalization of international trade. This also applies to import licensing and other forms of direct controls, such as allocations of raw materials, the licensing of building and construction and the regulation of prices and incomes.[2] It follows that in recent years the selective policy instruments most frequently used have been in the field of taxation and credit. Nevertheless, one should not underestimate the significance of selective priorities in the provision of various types of public services for achieving structural objectives, especially in a regional context.

All governments tend to supplement global measures by selective measures for solving particular problems or achieving specific policy objectives. However, the extent to which selective policy instruments are used may vary significantly from one country to another. In particular, there are marked differences in official philosophies and attitudes in the case of measures which discriminate among branches of activity in the private sector. These differences are found not only within the group of countries which prepare plans, but also among countries which so far have not engaged officially in any type of comprehensive economic planning.

It follows that the characteristic feature of planning as an instrument for the formulation and implementation of economic policies is not the degree of government intervention or the policy instruments actually used; the difference lies rather in the techniques and methods applied in deciding upon and implementing economic policies. As explained in Chapter III, certain policies are defined in quantitative terms by the use of models for plan preparation, whereas other policies are formulated more empirically. In both cases, the policies are translated into practical action within the framework of, and with constant reference to, the plan, which tends to become an instrument for rationalizing decision-making throughout the economy. It should be emphasized, however, that the significance of the plan in this respect — and also the choice of instruments and the relative weight given to them — depends on a variety of partly interrelated factors. Firstly, it depends on the scope of the plan, that is whether its aim is to affect only broad economic aggregates or to bring about specified structural changes. This, in turn, is partly related to the readiness of governments to take selective measures, if required, to attain stipulated sector targets and objectives. Secondly, it depends on the status of the plan — whether it represents a government action programme or recommendations by a semi-independent body which do not commit the government. This difference is, in principle, bound to affect public sector operations in that a government action programme can be considered as " normative " at least for activities subject to direct control by the central government. Thirdly, it will be affected by the extent to which private and public decision-makers participate in the process of plan preparation and in plan implementation. Such participation is perhaps especially significant for the operation of selective policy measures where the plan does no more than provide a framework for subsequent policy decisions.

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[1] See the *Economic Survey of Europe in 1959*, Chapter V, Table 1.

[2] The role of an incomes policy which, as the result of the liberalization of foreign trade and the *de facto* reluctance of governments to change foreign exchange rates, is frequently regarded as essential, is discussed in subsequent sub-sections.

In the predominantly market economies of western Europe, the scope and instruments for achieving plan implementation differ between the private and public sectors. In five of the six countries considered here,[3] the private sector accounts for roughly 75-80 per cent of gross national expenditure and 60-75 per cent of gross fixed investment; in Belgium, the shares are even higher — about 85 and 80 per cent, respectively.[4] Planning for the private sector is largely " indicative " in those countries, where the official view is that no detailed influence over the decisions of individual branches or firms should be sought, except by creating a general climate of expansion and of confidence in the future, indicating the broad lines of prospective development for the economy and taking appropriate measures to smooth out cyclical fluctuations and to encourage long-run economic growth. As pointed out in Chapter III, the existence of such planning will, of itself, influence decision-making in the private sector in that individual market forecasts made by enterprises or trade associations can be drawn up against the background of an overall plan (indicating the perspectives for the economy as a whole and for broad sectors) which has been established in the light of knowledge of the government's objectives and intentions in the economic and social fields.[5] The impact of the plan is likely to be considerably stronger where it is intended by the authorities as an action programme for structural change — in the sense that specific measures are to be taken to steer the private sector in directions stipulated in varying detail in the plan. In either event the influence of the plan will be stronger, the longer is the period of planning experience during which confidence in the efficiency and integrity of the planning authority can be built up, and the more active is the co-operation of the private sector in plan preparation.

Within the public sector, where the authorities might be expected to exercise considerable control, conformity with the central government's policies and plans is by no means automatically ensured,[6] although efforts have been made in most of the countries considered to improve the co-ordination of public sector activities within the framework of the plan. The spheres of action most relevant for this purpose are, first, the integration of the central government's budget into annual plans and the elaboration of longer-term budgetary programmes consistent with medium-term plan targets and, second, the exercise of central control over public enterprises' investment and pricing policies and over local authorities' expenditures, with a view to achieving both short- and medium-term plan objectives. In this context, it should be noted that the effectiveness of the public sector as an instrument for plan fulfilment has had very little to do with its size. As has been shown in a previous SURVEY,[7] the public sector can be very large and yet not be used as an instrument of a centrally conceived policy, because public enterprises pursue an independent course, because central control over local authorities is weak or even because, within the central government sector, the co-ordination of the policies of various departments is deficient. Here again, the existence of a plan should, in itself, help to eliminate inconsistencies within the public sector since the various public organs can then take their economic decisions with full knowledge of the objectives and targets of central policy.

As already noted, the question of the status of the plan may be considered as especially significant for public sector activities that are subject to control by the central authorities. For only a plan explicitly or implicitly endorsed by the government [8] will be considered as normative by the officials concerned with budget formulation and execution and/or with government policies not related to specific budget items. The actual impact of a normative plan on traditional budgeting depends, of course, on the scope and the nature of the plan itself. Thus, the plan will have a much more far-reaching effect on the budgetary process where government programmes are designed to promote specific structural changes in other sectors of the economy than where only objectives of a general nature, such as the maintenance of a high level of activity, are being pursued. It should be noted, however, that even in the latter case the global policies defined by the plan have to be translated into practical action by the normal administrative bodies.[9]

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[3] France, the Netherlands, Norway, Sweden and the United Kingdom.

[4] See the *Economic Survey of Europe in 1959*, Chapter V, Table 1.

[5] This also applies to the case where a plan prepared by a semi-independent body is not explicitly endorsed by the government.

[6] *Economic Survey of Europe in 1959*, *op. cit.*, Chapter V.

[7] *Ibid.*, Chapter VI.

[8] In this context, the significance of the formal status of the plan should not be unduly emphasized (see the comments made below on planning in the Netherlands).

[9] For example, the determination of the share of government disposable income in total national income by means of the strict

Planning is, in principle, a continuous process, and close co-operation between planners and other central government officials is required in plan preparation and implementation. In this connexion the preparation of annual plans within the framework of medium-term plans can become an important part of plan implementation by providing an opportunity for the planners and officials concerned to check the actual progress made towards the achievement of the medium-term targets, to revise these targets in the light of past and prospective developments, and to adjust the use to be made of the available policy instruments accordingly. The linking of annual plans to medium-term plans will, of course, also enhance the operational significance of the latter plans in the eyes of the other decision-makers of the economy, especially if they are associated with the continuous process of checking progress and reviewing targets and policies.

The following section consists of six separate " country studies ". The reason for dealing with these countries individually is that, even though they may have basically similar types of economic structure and organization, the difference in their approach to, and instruments for, plan implementation are such as to provide one of the points of major interest for a comparative study. The significance of these differences can perhaps best be evaluated by discussing the measures used in each country in the context of its specific problems, attitudes and institutions. As will be appreciated from the above, as well as from the contents of Chapter III, it has not proved possible or desirable, when describing the instruments for plan implementation used in the six countries covered, to distinguish clearly between short-term and medium-term policy measures. Neither is it intended to present a complete inventory of the policy instruments used, but rather to concentrate on what seem to be the characteristic policy features of a given country and on what might be of particular interest to other countries. Moreover, no attempt is made to discuss the policies applied to a particular sector such as agriculture.

Four countries (France, Norway, the Netherlands and Sweden) which have practised planning over a comparatively long period of time are dealt with first and two newcomers to the field (Belgium and the United Kingdom) are treated subsequently. Among the first four, only France and Norway prepare both annual and medium-term plans which represent action programmes of the governments concerned. French planning may be briefly characterized as aiming at a detailed influence on individual investment decisions in the private sector through a system of consultations with branch representatives, at the stage both of plan preparation and of plan implementation, and through the use of highly selective measures — in particular the exercise of a far-reaching control of financial institutions in the interest of plan implementation. The plans also play a very concrete role as a framework for public sector operations, through the co-ordinating activity of a public investment fund and the establishment of budgetary programmes over longer periods for example. In Norway, medium-term planning is characterized by the fact that the private sector participates in the planning process only to a very limited extent. The planning machinery has been developed as an integral part of the central administration and, although the plans are presented as government programmes for the whole economy, they acquire operational significance mainly within the public sector.

In the Netherlands and Sweden, the plans are not formally adopted by the governments. However, in the former country the lack of explicit government endorsement of the annual plans[10] appears to be of rather limited significance, in view of the very close contact between the Government and the Central Planning Bureau (part of the Ministry of Economic Affairs) on all questions of the formulation and adaptation of economic policies. In Sweden, the link between government policy and the medium-term plan or projection prepared by the experts specifically appointed for this purpose is much weaker. In both countries consultations with the private sector play an important role in plan preparation, but whereas in the Netherlands policy recommendations form part of the discussions of the plan, in Sweden they are not explicitly stated although they emerge implicitly from the picture that is presented.

The Belgian plan appears to follow the French pattern rather closely while the British plan resembles that of the Netherlands in that it does not formally represent a government policy programme and does not aim at influencing the sectoral pattern of private investment. But although its sector targets are not binding on the Government, recommendations of the National Economic Development Council may be expected to carry considerable weight and, as already pointed out in Chapter III, the Government has accepted the general targets and recommendations set out in the report of the Council.

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econometric techniques defined in Chapter III, section 3, will not provide more than a general guideline for officials concerned with the formulation and execution of government policies concerning taxes and other transfer payments.

[10] So far, longer-term plans have not been prepared on a regular basis.

2. Country studies

(a) France[11]

The machinery for plan execution

The French planning system has been characterized as a system of " indicative planning ", signifying that there is no attempt to lay down detailed and obligatory plans of operation for individual firms in the private sector. It has also been described as a system of " co-operative planning " or " concerted economy ", reflecting the joint responsibility of the Government, the rest of the public sector and the private sector both in plan preparation and in plan execution, and the largely voluntary nature of the private sector's observation of plan targets. Also, and perhaps most appropriately, it has been termed " active planning ", implying that

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[11] Throughout this sub-section, values are expressed in the current French monetary unit.

" within the framework laid down action be taken to translate planning into reality "[12] and that, while the plan aims to be normative for the public sector itself (as defined above), the authorities also intend to use all the indirect means at their disposal for inducing the private sector to act along the lines laid down by the plan.

There can be no doubt that French planning goes substantially further than does planning in most other western European industrial countries in giving the plan the character of an action programme. " Public opinion in France . . . would not understand that a statement of government economic prospects would not be the framework for a statement of government policies in all the fields of the economy where the Government is expected to intervene."[13]

That the plan is intended as an instrument for policy action is reflected in the fact that the plan-building organs described in Chapter III have been equipped with additional functions which enable them to review plan implementation during the course of the plan period and encourage the adoption of government policy measures adequate to ensure the execution of plan targets. Thus, the *Commissariat général au Plan*, while it has no important executive powers, nevertheless plays a considerable role in plan implementation. It submits an annual report on plan execution to Parliament and to the public; it maintains permanent close contact with the relevant ministries — particularly with the financial authorities — and receives information from, and operates through, them; it participates in inter-ministerial meetings on economic questions and is invited to present its views to parliamentary commissions; it also maintains the contacts with representatives of industry that are established during the process of plan preparation; more generally, it provides a meeting ground where representatives of government departments exchange views among themselves and with leaders of industry. Through these various activities, the *Commissariat* has established the tradition of a continuing " dialogue " among the public authorities, and between them and the private sector, which is one of the characteristic features of the French planning system.

In addition, the *Commissions de Modernisation*, which include policy recommendations in their reports dealing with the preparation of the plan — recommendations of a technical and organizational nature directed to the industrial or other branch concerned, and on financial, fiscal or price policy according to the nature of the relationship between their branches and the authorities — also have a role in plan execution. They are convened annually to check the progress achieved in their particular branches of activity in the context of the overall development of the economy, and to revise, if need be, their branch targets.

Furthermore, as mentioned in Chapter III, the *Conseil supérieur du Plan* — a consultative organ appointed by the Cabinet with the *Commissaire général au Plan* as executive secretary and consisting of 60 representatives of professional organizations, trade unions, agriculture, regional bodies, universities and the *Conseil économique et social* — advises the Prime Minister not only on the main targets of the new plan, but also on the implementation of the current one.

Consultation on the plan as an instrument of plan implementation

French plan implementation relies very much on the psychological effects on the private sector of the mere existence of the plan and of the way in which the plan is prepared. In the 17 years during which planning has been a feature of the French economy, it has gradually come to be accepted in the minds of those in important economic positions (whether in the public or the private sector) as an important element in the economic life of the country.[14] More recently, it has also come to be associated with the new dynamism that has characterized the French economy after a long period of relative stagnation, and to be regarded as one of the factors giving confidence that a high rate of growth will be maintained in the future.

For all economic decision-centres which assess the future prospects for their particular spheres of activity, the opportunity of referring to a national forecast made on the basis of much wider knowledge of all the relevant factors is of considerable value.[15] There seems to be a general impression that, over the years, private business' earlier mistrust of the plan — based on the fear of excessive government intervention and " dirigisme " — has been largely dissipated, and has given way to a belief in the usefulness of the plan and in the competence and objectivity of the planning authority. Moreover, entrepreneurs are aware of the fact that it is in the context of the plan, and upon the advice of the *Commissariat*

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[12] See P. Massé (Commissaire Général du Plan), *French Planning: Present Situation and Future Prospects.* Paper presented to the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas, Geneva 1963 (document E/CONF.39/H.29).

[13] P. Lemerle, *Co-operative Planning, Commissariat général au Plan*, 15 December 1962. Paper presented to the United Nations Group of Experts on Planning for Economic Development, to be published in the forthcoming addendum to *Planning for Economic Development*, United Nations, New York 1963, document A/5533/Rev. 1.

[14] That this should be so was certainly the intention of the planning authority which, in contrast to those in some other western countries, where the plan remains more in the background, has done a great deal to publicize the role of the French planning system; the key role of the plan is also reflected in the vast amount of literature on the subject from other French sources which has appeared in recent years.

[15] " I believe that the very existence of a coherent set of targets and forecasts, aggregate as they be, at the level of the whole economy, is good for anyone who has to make decisions in the economy: investment decisions, production decisions, purchasing decisions, hiring and training decisions, decisions in the realm of government as well as in that of the business firm. . . . The guiding idea of our planning system consists in providing all those who have to make their own forecasts with a single set of references, and in integrating all the interdependent effects in the national economy into a single prospective economic table. . . . Firms are not dispensed from working out their valuations of their share in their branch, nor from choosing their own attitude concerning risks. But they can do so much better informed." Lecture delivered to the Detroit Edison Company by M. Pierre Massé, Detroit, November 1962. (Text kindly supplied to the Secretariat by the *Commissariat général au Plan*.)

général au Plan, that important policy decisions are taken, and that it is therefore useful to be " on the inside ". For example, representatives of small industrial branches have sometimes asked for the creation of a working party for their particular branch so that they may participate in plan preparation and benefit from the expert advice and from a knowledge which they thus acquire of what developments are expected in other sectors and of what the Government's intentions are.

The method of plan preparation described in Chapter III has itself certainly been a powerful factor in plan implementation. This applies particularly to the various branches in the public sector, where the body responsible for the execution of the plan was probably concerned very directly with its preparation and integration into the national plans. In the private sector, as has been seen, branch representatives participate in the elaboration of plan targets. The existence of highly developed industrial and professional associations in France was an essential prerequisite for this kind of co-operative planning; and the development of the planning system has subsequently reinforced the influence of these bodies. Even though there is nothing in the branch plans which is binding on private firms, the joint responsibility for their formulation creates a feeling of common purpose and commitment. " The concerted elaboration of a plan makes it possible to invite the various economic and social forces to participate in defining a development policy and grasp its implications. The plan has thus more chance of being understood and accepted than if it were the work of a restricted group of experts."[16] The personal contact and mutual trust established through the joint work of officials, experts and entrepreneurs during the period of plan preparation tends to be continued thereafter and the heads of large enterprises, at least, thereby become accustomed to consulting the planning authority when taking major investment decisions. The fact that a high proportion of senior government officials, leaders of industry and economic and technical experts have been trained in the same schools and therefore have similar approaches to a problem — as well as frequently knowing each other personally — is also conducive to this kind of co-operation.

However, such a general description of the influence of planning methods on plan execution perhaps conveys too uniform a picture. In fact, the manner in which enterprises participate in plan preparation varies considerably according to the type of enterprise in question and whether it is in a branch that is public or private, " basic " or otherwise, capital-intensive or not, or having predominantly large or small units; and this, in turn, affects the extent to which the enterprises are effectively bound, or feel themselves committed, to carry out plan tasks.

A key quantitative target for any branch of industry is, of course, the investment plan. The investment programmes of the public enterprises (other than those such as the Régie Renault operating in the competitive sector)[17] may be identified with the relevant investment programmes incorporated into the plan. Central control over these public enterprises, exercised through the intermediary of the appropriate ministry, is sufficiently powerful to shape their investment (and also their pricing) policy in accordance with plan targets and thus to render the targets mandatory for the enterprise.

Second in order of commitment to planned investment targets are enterprises in branches of the private sector comprising only a small number of relatively large units and undertaking slow-maturing and highly capital-intensive developments, such as the steel industry. For such a branch the investment plan is the sum of the individual investment programmes of the enterprises concerned, formulated with the help of the planning authority and adjusted according to requirements of consistency. The enterprises are not thereafter bound to adhere to these agreed programmes; but the fact that they have participated in the plan preparation, combined with the powerful financial instruments by which the authorities can influence their subsequent expenditures (see below), has proved sufficient on the whole to ensure general adherence to the targets — at least in periods when demand pressures have not been very markedly different from those foreseen.

In the third place, there are those branches that comprise large numbers of small and medium-sized enterprises which participate in plan preparation only indirectly, through the representatives of their industrial associations. In these branches a knowledge of, and an adherence to, the plan will certainly be less widespread and will depend, in part, on the personal qualities of their representatives and on their efforts both at the stage of plan preparation and again when publicizing the purposes and advantages of the plan among the members of the association. However, in the majority of such branches the aim of the plan, as indicated in Chapter II, has not been so much to achieve stipulated levels of investment or output but rather to provide technical and other encouragements for the adoption of improved techniques of production and for raising factor productivity. For them, a strict observance of planned investment targets is also considered less important because the investments of such branches are usually both fairly rapidly maturing and somewhat more readily adaptable to unforeseen changes in final demand for their products than are investments in the basic sectors. Finally, there remain the largely export-oriented industries, where national planning encounters the obvious difficulty of forecasting foreign demand in the absence of co-ordinated planning on an international level. For these branches the output " targets " are little more than " forecasts " of what is possible — and necessary — for the consistency of the national plan as a whole; the investment targets are estimates of their related needs for new capital.

The plan and the public sector

As was noted in a previous SURVEY,[18] the share of the public sector (defined as the central government, local authorities and public enterprises) in gross national expenditure and in total gross fixed investment is not outstandingly large in France. Its share in national expenditure in 1957 was somewhat larger in Austria, Sweden, the Netherlands, the United Kingdom and Norway; and its share in investment was considerably larger in Austria and the United Kingdom and slightly higher in Italy.

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[16] P. Massé, *French Planning: Present Situation and Future Prospects, op. cit.*

[17] That is, those operating in the coal, electricity, gas, atomic energy, railways, air transport, postal services and telecommunications sectors and part of maritime transport.

[18] SURVEY for 1959, Chapter V.

However, as noted above, the relative significance of the public sector as an instrument for plan fulfilment within this group of countries depends less on its size than on, first, the effectiveness of the control exercised by the central authorities over local authority and public enterprise operations and, secondly, the extent to which central government activities (including the exercise of such control) are geared to the plan.

In the first respect, the fact that the French administration is more highly centralized than in some other western European countries — and has been since the Napoleonic reforms — has certainly been a factor in successful planning. Moreover, as has already been stated, central control over public monopolies is strong, both as a result of the process of joint planning and because a very large proportion of their investment is financed from public funds. Finance for dwelling construction is also largely centrally controlled. Direct public investment, public monopolies' investment and investment in dwellings taken together amounted to as much as 25,755 million francs, or 52 per cent of total gross fixed capital formation, in 1960. The percentage distribution of this total was as follows:

Direct state investment		5.3
Local authorities		17.9
Dwelling construction		34.9
Public monopolies		41.9
of which:	Energy	*25.0*
	Transport	*14.4*
	Post and telecommunications	*2.5*

Source: " Septième rapport du Conseil de direction du Fonds de développement économique et social ", *Statistique et Etudes financières*, January 1962. Figures given there have been adjusted to include only that part of housing and public enterprise investment which is State controlled. The adjustment has been made according to a table published for 1959 in B. Cazes, *La Planification en France et le IV^e Plan*, Paris 1962, p. 89.

In the second respect, every effort is made to exercise central control in the interest of plan fulfilment. This is certainly true for general government investment and, as already indicated, that of the public monopolies is *de facto*, if not formally, integrated into the plan. Moreover, all these activities exercise an influence on investment in dependent branches — as, for instance, those of the *Electricité de France* on the electrical equipment and construction industries and those of the SNCF (railways) on the transport equipment industry.

However, certain difficulties have arisen in directing public sector activities in an orderly and purposeful fashion towards plan fulfilment. These stem from the fact that there are several public decision-centres, influenced by different, sometimes opposing, and often changing, motives. Such motives include short-term economic policy considerations and non-economic factors.[19]

Special efforts have been made to integrate more fully the annual budgets with the four-year plan, by establishing a permanent liaison between the Commissariat and the Budget Directorate and requiring consultation between the two organs when provision for equipment credits is made in the budget; also, the spending ministries are requested by the Ministry of Finance to prepare their demands for investment credit with due regard to plan targets. One objective of the establishment in 1955 of the *Fonds de Développement Economique et Social* (FDES), of its *Conseil de Direction* and its specialized committees, was to co-ordinate, in conformity with the plan, the activities of the various public bodies concerned with the day-to-day allocation of public investment funds.

Measures have also been taken (under the *Lois de Programmes*, instituted in March 1956) to ensure that funds required under the plan for selected categories of public, or publicly-financed, investments — such as expenditures for school equipment, for nuclear energy, etc. — can be voted for several years ahead and thus not be subject to the risks of annual budgeting. The operation of these laws has, however, been criticized by one of the modernization commissions on the grounds that it is insufficient for some projects even to secure finance for some years ahead: authorization should also be given to the public body or enterprise undertaking the project (as at present it is not) to translate the financial commitment into real terms by placing long-term orders with suppliers, thus helping to ensure the execution of the project in the stipulated time and also enabling the suppliers to make their investment and production plans accordingly.[20]

The planning instruments proper

With the gradual abolition of direct controls over the private sector — price fixing, the allocation of raw materials and of reconstruction credits, foreign exchange rationing, import licensing — on which the authorities relied for the execution of plans in the earlier postwar period, the instruments for plan implementation used more recently have comprised, largely, indirect incentives and checks, together with financial controls. They have been aimed mainly at influencing the level of investment and have been applied in a highly selective way.

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[19] " Day-to-day action can be said to be a compromise between the short-term and the long-term points of view. To overlook the former would be to ignore the facts of life. To overlook the latter would be to sacrifice the future to the present. Unfortunately, impatience and the easy way out encourage the latter attitude so that the *Commissaire général* in the implementation of the plan has to display both much understanding and much firmness." Pierre Massé, " La Planification française ", lecture delivered in London, 22 April 1961, and reproduced in *Histoire, Méthode et Doctrine de la Planification française*, La documentation française, Paris 1962 *(*supplément aux *Notes et Etudes documentaires)*.

[20] See Quatrième plan de développement économique et social (1962-1965), *Rapport général de la Commission de l'Economie générale et du Financement*, Paris 1961, pp. 45-46. That the supply of finance is alone not enough to secure plan execution is strikingly illustrated by a case of non-fulfilment in one important sphere where needs were clearly foreseen, namely the provision of more school facilities — in terms of buildings, equipment and teaching personnel — because of a need which arose both from demographic factors and from a later school-leaving age. Although authorizations for expenditures for school (and university) equipment have been substantially increased in recent years, disbursements have lagged very much behind; and this has been officially explained in part by delays in launching and executing the programmes. A number of measures have already been proposed to reduce the time-lag between appropriation and execution, and other reforms are under way (Commissariat général du Plan, *Rapport sur l'Exécution du Plan en 1961 et 1962*, Paris 1962).

In the following paragraphs, measures affecting the supply of external finance to the enterprise are distinguished from budgetary measures affecting the opportunities for self-financing and, among the latter, global measures from selective incentives or controls. The term " selective " is used to describe financial and fiscal instruments discriminating in favour of the investment activities of a given branch, enterprise or project in accordance with plan targets, in favour of a given location of investment according to regional development objectives, or in favour of investment of a particular kind — such as that undertaken to promote scientific research, investment aiming at the modernization, conversion or merger of enterprises, investments undertaken in response to the productivity drive or in order to produce for export.

The most powerful instrument for a selective direction of investment is the strong central control exercised over the distribution of investment funds. A complex machinery has been set up for linking the granting of long- and medium-term loans and the authorization of bond issues and tax concessions on the occasion of increases of capital to plan implementation.

TABLE 1

Gross fixed investment in France by sectors and industrial branches and by sources of finance in 1953 and 1961

Sector or branch	Gross investment (million francs)	Percentage distribution by sources of finance						
		Public funds		Specialized finance institutions	Medium-term bank credits	Shares	Bonds	Other, including self-financing
		Total	FDES [a]					
1953								
Agriculture	2 700	19.8	8.3	3.0	1.5	1.1	0.2	74.4
Energy	2 998	38.6	34.5	1.7	14.6	0.7	15.4	29.0
Communications	3 614	21.1	2.6	2.3	6.4	—	6.6	63.6
Industry	3 345	12.0	11.2	0.5	6.0	6.4	7.5	67.6
of which :								
Non-ferrous metals	..	..	..	..	..	..	..	..
Iron and steel	1 005	36.2	36.1	0.8	11.0	3.0	11.5	37.5
Engineering	540	1.1	—	1.5	3.2	18.5	11.1	64.6
Building/building materials	550	0.2	—	0.4	14.5	1.8	0.9	82.2
Chemicals	570	2.6	1.7	—	−2.6	9.6	9.7	80.7
Textiles	350	2.9	—	—	−2.9	2.9	1.4	95.7
Miscellaneous	330	0.9	—	—	5.5	3.0	3.0	87.6
Distribution and other services [b]	2 823	16.2	0.6	1.5	—	8.0	0.4	73.9
Government and culture	2 842	61.9	7.0	29.2	—	—	2.1	6.8
Households	4 400	45.0	—	0.3	16.6	0.9	—	37.2
TOTAL	22 722	31.0	8.5	5.0	7.2	2.3	4.5	50.0
1961								
Agriculture	4 855	18.0	3.7	37.7	4.0	1.2	0.3	38.8
Energy	7 654	46.6	27.1	1.5	−1.5	1.0	15.6	36.8
Communications	5 633	22.5	5.0	4.2	1.8	—	9.8	61.7
Industry	12 732	0.4	0.4	5.8	2.5	12.6	13.2	65.5
of which :								
Non-ferrous metals	283	—	—	12.4	15.2	37.5	161.0	−126.1
Iron and steel	2 470	—	—	6.8	−7.6	9.3	17.6	73.9
Engineering	4 209	0.2	0.2	5.5	7.8	9.8	14.1	62.6
Building/building materials	1 830	—	—	4.9	—	3.2	—	91.9
Chemicals	2 032	2.0	2.0	9.6	0.2	36.2	9.8	42.2
Textiles	1 000	0.3	0.3	—	8.7	3.6	—	87.4
Miscellaneous	910	0.2	0.2	1.7	4.7	2.6	—	90.8
Distribution and other services [b]	4 150	15.0	8.2	4.0	4.7	15.4	0.7	60.2
Government and culture	7 563	55.0	2.9	28.8	—	—	3.2	13.0
Households	12 522	22.7	16.6	10.0	5.9	1.7	0.2	59.5
TOTAL	55 111	24.3	9.5	11.8	2.6	4.7	6.8	49.8

Source : " Septième Rapport de la Commission des Investissements ", *Statistique et Etudes financières*, Supplément No. 74, February 1955; et " Huitième Rapport du Conseil de direction du Fonds de développement économique et social ", *Statistique et Etudes financières*, Supplément No. 174, June 1963.

[a] *Fonds de développement économique et social.*

[b] Including enterprises unspecified.

Partly as a result of a weakness of the capital market, the share of public funds in total investment financing has been exceptionally high, varying between roughly one-third and one-quarter in the period 1953 to 1961 [21] (see Table 1). Public funds contributed substantially to the investment of nationalized enterprises in the energy and transport branches, of local authorities in dwellings,[22] and — within the private sector — to investment in agriculture and, for some time, in the steel industry. The FDES — the special treasury account created in 1955 and referred to above [23] — played an important role in financing, in particular, investment in energy and steel production, local-authority investment and, more recently, investment in dwellings. This institution is an important element in the machinery for plan execution since it centralizes decisions concerning public financial aid. Under the chairmanship of the Minister of Finance, its directorate consists of 15 members — six ministers, the heads of four of the large specialized credit institutions of the *Banque de France*, the directors of the budget and the treasury and the *Commissaire général au Plan*. It has four sections dealing respectively with the financing of agricultural, industrial, commercial and tourist facilities, with industrial and agricultural adaptation and industrial decentralization, with productivity improvements and with construction. A number of committees established for various parts of the public sector — such as local authorities, energy and transport — and for industrial and commercial enterprises in the private sector bring together those responsible for economic policy-making and provide for a comparison of the views of various administrations. The FDES examines the investment programmes to be carried out by the public sector as well as other projects to be financed with its direct or indirect support, and reviews their execution. It advises on priorities and, in doing so, takes into account plan targets. The *Commissariat général au Plan* participates in decisions concerning the distribution of the FDES's financial resources. In addition to granting loans, the FDES also gives partial or total guarantees for loans obtained from specialized credit institutions and may refund interest payments — both these facilities being subject to an approval of the projects concerned in the light of plan targets.

The operations of one of the specialized credit institutions — the *Caisse des Dépôts et Consignations* — play an important role in the process of plan implementation. Indeed, the *Caisse* is an institution with very special characteristics and functions. The bulk of its resources are provided from collective savings, such as deposits of the *Caisses d'Epargnes*, of public entities, and of the national social security and pension funds. They increased between the end of 1961 and 1962 from 5.3 billion francs to 8.1 billion francs — the largest increase ever experienced in one year — and reached 9.2 billion francs by the end of 1963; [24] the *Caisse* has become the most important lending institution in France. While other specialized credit institutions both borrow and lend on a long-term basis, the *Caisse* uses short-term deposits for making long-term loans. It is partly because of the preference of the French public for holding savings in the form of short-term assets rather than those available in the capital market that a high degree of concentration of savings has been made possible; the *Caisse* uses its control over these savings in the interest of plan execution.

The largest portion of the total loans — amounting in 1962 to some 5.5 billion francs [25] — went to the municipalities for infrastructure investment [26] and dwelling construction. Every project which is subsidized by the state is eligible for a loan from the *Caisse* and, since this finance constitutes the only source of credit available to the municipalities, the execution of this part of the plan is strongly controlled.

To determine the recipients of the Caisse's other loans, the FDES draws up a list of projects planned for a given year and, after eliminating those which can obtain finance on the capital market, distributes the remainder between itself and the *Caisse*, the latter lending under government guarantee. The *Caisse* gives loans for industrial development either directly (to designated enterprises in the energy and transport sectors and in various other industries) or adds to the resources of the *Crédit national* for such lending. It also grants loans for dwelling construction to building societies, to the *Crédit foncier* and to the State for social housing projects (HLM). Through the FDES it also lends to regional development companies (see below) for projects approved by the *Commissariat général au Plan*.

The granting of medium- and long-term credits [27] by the *Crédit national*, a private but state-controlled industrial credit institution, is also subject to checks in the light of plan targets. For any medium-term credits exceeding 1 million francs, or for long-term credits exceeding 2.5 million francs, the *Crédit national* has to refer the investment projects concerned to the decision of the *Commissariat général au Plan*.[28]

Capital market financing is also subject to certain controls and influences. The authorization of the Ministry of Finance has to be obtained for all bond issues exceeding 1 million francs; the Ministry takes a decision in consultation with the *Commissariat* on the desirability of the investment. The issue of new shares is no longer subject to control; but the special fiscal concessions available (the exemption over a period of seven years from company tax of a proportion of distributed profits not exceeding 5 per cent of the new subscription) are granted subject to approval by the *Commissariat*.[29]

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[21] No comparable figures are available prior to 1953.

[22] Included in the item " households " in Table 1.

[23] Taking the place of three separate funds — *Fonds de modernisation*, the *Caisse autonome de la Reconstruction* and a fund promoting productivity improvements.

[24] See *Caisse des Dépôts, 1963; Rapport au Parlement*, Paris 1964.

[25] In 1960, the *Caisse* supplied about 63 per cent of the total finance provided by all specialized credit institutions, equivalent to about three-quarters of the amount raised on the capital market.

[26] Roads, water, schools, electrification, transport and communications and other public services.

[27] The former for two to five years and the latter for five to twenty years.

[28] The provision of guarantees for medium-term loans also forms part of the system of control since the Bank of France — unlike most central banks — will discount medium-term loans subject to certain conditions.

[29] The purpose of this conditional concession was, however, not

These various controls over investment financing provide a means of selective influence of investment on a project-by-project basis, in the light of plan objectives. Their existence also means that most of the large enterprises must discuss the merits of their investment projects each time they wish to borrow from public funds or from specialized credit institutions, to issue bonds, to obtain fiscal concessions when increasing their capital, or to obtain guarantees for loans or interest rebates. Moreover, the authorities are thus informed of a large proportion of the investment projects which are under way or being started.

Table 1 shows that the share of public funds in total financing declined between 1953 and 1961, giving way, in part, to finance from specialized credit institutions and, in part, to a progressive strengthening of the capital market. However, the share of public funds in the investment finance of the energy and transport sectors has further increased; with the major exception of steel, they have never played an important role in private industry. Access to other sources of external finance is also subject to central approval or, at least, requires that the projects be discussed with the authorities; and self-finance — which alone entirely escapes central influence — has become much less important in the total finance of enterprises' investment in recent years.

Among the measures put into effect since September 1963 as part of the Stabilization Plan,[30] there is a further shift in the sources of finance. The activities of the FDES are to be curtailed so as to increase the share of public investment financed from extra-budgetary long-term resources. Thus the contribution of the FDES to the financing of public enterprise investment is to be reduced [31] while that of the *Caisse* and of self-finance is to be increased. Investment finance for dwellings is now less dependent on public funds and more on the *Caisse* and on the capital market.

The Fourth Plan stated as one of the major aims of fiscal policy " the elaboration of deliberate measures for fostering economic growth and in particular the elimination of fiscal hindrances to economic progress ".[32] One step in this direction has been to increase " fiscal neutrality " as between the various forms of economic organization. As early as 1954 a sales tax, calculated on value added, replaced the previous system of a series of turnover taxes on production and on transactions, which raised the tax burden on the final product along with any increase in the number of stages in the production progress. The new tax is based on the sales value; but from the amount due on this basis, all taxes paid at earlier stages of production are deducted.[33] Thus, the new " value added " tax has the advantage of being neutral with respect to various forms and degrees of industrial concentration and also of eliminating the previous disincentive to " modernizing " investment. The establishment of a " neutral " tax system has the further important advantage that it becomes easier to formulate deliberately selective fiscal incentives when the underlying tax system contains no elements of haphazard discrimination. In the Fourth Plan, further reforms of the tax system to ensure more fiscal neutrality are envisaged, including a widening of the field of application of the value added tax. Furthermore, in 1959 the linear depreciation allowances which had been allowed against taxes on profits were replaced by accelerated depreciation allowances, thus adjusting French practice to that of some other western European countries and removing a further disincentive to modernization programmes.

The granting of selective fiscal advantages for particular activities considered to be valuable for achieving the objectives of the plan has increased in importance, with preference being given to contractual aid based upon case-by-case examination, rather than to automatic application of some specified rules. In this, as in the field of investment credit, the planning authorities are either directly responsible for, or consulted upon, the approval of requests for fiscal concessions. These may take the form of subsidies (equipment premia for regional development purposes), interest rate refunds (which have been granted to the SNCF, Air France and the steel industry) and tax reductions conceded on the occasion of increases of capital, already mentioned above. Fiscal alleviations or exemptions may be granted to the so-called *sociétés conventionnées* for adaptation to the conditions of the European Common Market, which encourage the association of small and medium enterprises (on the basis of an agreement between the *société* and the Ministry of Finance); for the improvement of the structure of an industrial branch by means of the concentration or deconcentration of existing units;[34] for the development of the production of new materials and equipment; for the financing of approved industrial or trade groupings set up for conversion or rationalization purposes; and for the promotion of scientific and technical research.

More recently there has been a tendency to make the application of such measures more systematic; and the concept of a " quasi-contract " has been evolved by which an industrial branch or a firm reviews with the administration the objectives which it should pursue within the framework of the plan and undertakes to make every effort to achieve these objectives in return for a commitment by the authorities to grant preferential fiscal and other advantages for a specified minimum

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primarily to wield some influence over new share issues but rather to equalize the fiscal treatment of finance by bonds and shares, which previously favoured the former.

[30] For a detailed description of the measures taken, see *Economic Bulletin for Europe*, Vol. 15, No. 1, pp. 93-94, and *Economic Survey of Europe in 1963*, Part 1, Chapter II, pp. 62-64.

[31] The share of the FDES in the financing of public enterprise investment, which has been declining in recent years, is being further reduced — from 32.5 per cent in 1963 to 28.5 per cent in 1964. See *Neuvième Rapport du Conseil de Direction du Fonds de Développement économique et social, Projet de Loi de Finances pour 1964, Annexe*, Paris 1963, p. 39.

[32] *Projet de Loi portant approbation du Plan de Développement économique et social*, Vol. II, Paris 1961, p. 233.

[33] This means that an industrialist calculates the tax due on his total sales and pays an amount equal to this, less the tax element in sums he has paid to his suppliers for materials, power, equipment, etc. (listed in the invoices as the amounts *due* — not necessarily the sum that the suppliers had actually paid).

[34] While general efforts are being made to check excessive concentration, selective fiscal aid is granted where concentration is considered insufficient.

period.[35] This formula has found favour with, for example, various working groups of the *Commission* for the processing industries. Thus the groups for industrial equipment, electronics, household equipment and wool recommended a more widespread application of this formula, especially for the support of rationalization programmes. "These several examples show that an increasing number of industrial sectors gladly accepts the idea of a discussion of overall programmes with a view to fulfilling the essential objectives of the Plan."[36]

To summarize the various instruments used for encouraging the implementation of the investment targets of the plan, it is convenient to tabulate them according to the different sources of investment finance they affect:

	Instruments	
	Global	*Selective*
1. Self-finance	Value added tax Accelerated depreciation	Subsidies Interest rate rebates Various fiscal alleviations and exemptions
2. Long-term loans from public funds and state guarantees	Amount determined by the budget	Amount and conditions of use checked in the light of plan targets
3. Long-term loans from specialized credit institutions		
4. Medium-term credit		Assurance of rediscount by central bank subject to plan considerations
5. Increase of issued capital		Fiscal alleviation if in accordance with plan objectives
6. Bond issues		Authorization of amount; calendar for timing
7. Private short-term bank credit	Overall credit policy	

But perhaps as important as the direct impact of the measures themselves is the fact that the selective instruments applied under items 1 to 6 all involve application by the prospective investor to the planning authorities (supported by a specification of the investment project for which financial and/or fiscal aid is requested) and discussion of the merits of his project in the light of the objectives and targets of the plan.[37]

The major question which this description of the methods of credit control and fiscal incentive leaves unanswered is: which criteria are used to determine whether or not a particular application is in line with the objectives and targets of the plan and how are the priorities of competing claims established? It appears that, for individual major projects within such nationalized industries as *Electricité de France* and the SNCF, objective and rational criteria of selection have been established with the help of refined mathematical techniques. For the rest, decisions are taken in a purely empirical and qualitative way, in relation to the global investment targets for the branch and the qualitative objectives of the plan — the economy of investment inputs, the encouragement of technological advances, etc.

Incomes policy

As was indicated in Chapter II, French planning methods and policy measures, though successful in inducing economic expansion and an efficient use of factor inputs, have had little success in promoting some other — in practice second-order — objectives, notably internal price stability and balance-of-payments equilibrium. Expansion during the fifties was achieved at the cost of rapid domestic price inflation and persistent balance-of-payments difficulties, culminating in the devaluations of 1957 and 1958, and renewed inflationary pressures led to the adoption of a Stabilization Plan in September 1963.

The problems of domestic cost and price stabilization and the related need for some kind of "incomes policy" are essentially similar in France and the other western European industrialized countries. But in France the specific problem for the future is seen as not merely the prevention of a wage/price spiral, but ensuring a more equitable distribution of the fruits of economic expansion among the various social groups — involving an improvement in the relative positions of those which have in the past lagged far behind the average rise of real incomes.

The Fourth Plan did not propose that an incomes policy be based on legislative provisions or new regulations, since both workers' and entrepreneurs' organizations are unwilling to lose their freedom to negotiate collective wage agreements. "Free discussion, which will remain the rule, will, however, be helped along by studies based on national accounts and subjected to critical analysis. The government expects that the improvement of information, the recognition of interconnexions in the economy and the appreciation of the important matters at stake will result in the elements of an incomes policy being derived progressively from life itself. The competent authorities watching over plan implementation will have a very important role to play in the elaboration of such a policy." [38]

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[35] The best-known case of such an agreement was the motor-car industry's undertaking, in 1957, to export two-thirds of the prospective increase in its output in return for various concessions.

[36] "Rapport Général de la Commission des Industries de Transformation", *Quatrième Plan de Développement économique et social, 1962-1965*, Paris 1961, p. 90.

[37] "A purely external and legal description of this combination of methods might lead to the belief that the Government and the Commissariat for the Plan intervene drastically in the details of economic life. It is true that these controls and stimuli exist; and some are very powerful. In principle, they could enable the State to exert very strong pressure on the private sector. But, in practice, action is very flexible and based entirely on discussion and persuasion." (OECD, *Growth and Economic Policy*, Part II, p. 106, Paris 1964.)

The provision and dissemination of more detailed and systematic information on income distribution and income developments, set within the overall economic framework, had already begun earlier. It was expected that "the sterility or harmfulness of certain claims will appear more clearly, once they are placed in an overall context." [39] Furthermore, the *Conseil économique et social*, the *Conseil supérieur du Plan* and the *Commission des Comptes de la Nation* have been consulted on the desirable average increases in personal incomes and the optimum distribution of the increment; and the planning authorities have been urged to do all they can to see that decentralized wage negotiations are undertaken in a framework of acceptance of the need for consistency with the execution of the plan.

As was noted in Chapter III (section 4), in the current preparation of the Fifth Plan more attention is being paid to possible changes in the general price level, and to the effect that these, and changes in relative prices, have on the incomes and purchasing power of different social groups and on enterprise financing. Moreover, the growth and distribution of income is being treated as one of the specific objectives of the plan. How to implement this objective, however, is still a matter which is engaging the attention of the authorities and one which requires the co-operation of all parties, though the need to search for a solution was emphasized by the mounting inflationary pressures of 1963. In order to assist in determining an institutional framework and the guiding principles for an incomes policy a "Conférence des Revenus" was called together in the autumn of 1963, in which government representatives sat with representatives of all professional groups. The report of the Conference, submitted to the Government by the *Commissaire général au Plan*, contained a number of proposals which are under study or in the course of implementation,[40] but since completely new ground is to be trodden the approach to the problem will necessarily be empirical. It is hoped nonetheless that as a result of further study and discussions with all interested parties action along the lines proposed may be initiated in time for the beginning of the new plan period in 1966.

Regional planning [41]

Chapter II also noted an increased stress on regional development as a feature of the Fourth Plan. The approach to regional planning has been slow, though problems of regional disequilibria have received some mention in all past plans and some special organizations have been created for the development of certain regions or for the solution of certain problems.[42] However, action has until recently been scattered and not co-ordinated within a national framework. Only in the plan law of 1955 [43] was it stated, for the first time, that the national plan for equipment and modernization should be complemented by regional plans,[44] and only under the Fourth Plan is an effort to be made to integrate regional policies as "local projections of the national plan".

A new system of territorial classification was introduced in 1956, establishing twenty-one regions, each consisting of from two to eight departments. The areas of the regions vary greatly, since most contain between 1 and 2 million inhabitants — Paris with 8½ million persons, Rhône-Alpes with 4 million and Nord with some 3½ million being the main exceptions. Lack of uniformity in the local administrations within each region was one factor hampering regional planning under the 1955 law.[45] This was remedied by 1960,[46] but still no regional economic administrations exist. However, a substitute was provided by the creation of the *Conférence interdépartementale des Préfets*, which groups the prefects of all the departments within the region and is supposed to ensure co-ordination of the departmental administrations at the regional level; and in March 1964 further reforms were decreed to strengthen this conference organization.[47]

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[38] B. Cazes, *Le Plan et la Participation des Forces économiques et sociales*, Commissariat général au Plan, Paris 1962 (roneoed document).

[39] *Projet de Loi portant approbation du Plan de Développement économique et social*, Vol. II, Paris 1961, p. 126.

[40] *Rapport sur la politique des revenus établi à la suite de la Conférence des Revenus*, Paris, February 1964 *(La Documentation française, Recueils et monographies*, No. 47). See also sections 5 and 6 of Chapter II of the Survey for 1963, Part 1.

[41] Much of the material for this section has been drawn from J. Lajugie, "Aménagement du Territoire et Développement économique régional en France (1945-1964)", *Revue d'Economie politique*, January-February 1964 and from a paper by P. Viot *(Aspects régionaux de la Planification française*, Commissariat général au Plan, Paris, May 1964) presented to the Third Meeting of Senior Economic Advisers to ECE Governments, Geneva, November 1964.

[42] The starting point of the policy of regional development was a law of 1951 which provided the juridical framework for a series of measures for the settlement of the Durance, the Bas-Languedoc and the Plateau de Gascogne.

[43] Law 55-873, 30 June 1955.

[44] It took some seven years to elaborate the first of the regional plans, which were published in the *Journal officiel (Lois et Décrets)* as and when the individual plans were approved. (They may be found under the general heading "Plan régional de Développement et d'Aménagement". See, for example, the plan for the Champagne region (Decree 62-1160 of 4 October 1962) in the issue of 10 October 1962.) For a list of the various regional plans and date of publication or of progress towards their completion (from the beginning of 1963) see *Rapport d'Exécution des Plans régionaux pour l'Année 1961*, Comité des Plans régionaux, Paris 1963, pp. xiv-xv. The plans appear to be more an inventory of resources and a list of recommendations than co-ordinated "development plans".

[45] The regional plans were prepared by "rapporteurs", at the *Commissariat général au Plan*, who worked in contact with the local authorities under the general aegis of the *Comité des Plans régionaux*, an official committee including representatives of the *Commissariat général au Plan*, the various interested departments, the FDES and other bodies concerned with regional planning (Decree 1459 of 31 December 1958).

[46] Laws 59-171 of 7 January 1959 and 60-516 of 2 June 1960.

[47] The *Conférences interdépartementales* were transformed into *Conférences administratives régionales*, advising on public invest-

The second important regional planning organ is the *Comité régional d'Expansion économique*. Several *Comités* had been created since 1954 in different parts of the country, without reference to any national scheme, with dissimilar juridical structures and, in some cases, with only a semi-official status. Not until 1961 were they given a uniform status and role. One important feature of the *Comités* is their widely representative nature. Representatives from a very wide range of economic and social groups (from agriculture, commerce, industry and crafts, trade unions, credit institutions, consumers' organizations, family associations, etc.) participate, together with the local authorities; their establishment has thus tended to strengthen the representation of private groups, relative to that of public authorities, in the planning process. The *Comités* are financed by state subsidies and contributions from local authorities and the private sector. Their role is essentially consultative but their advice is an important element in the elaboration of the regional plans. To complement these committees, regional development commissions (*Commissions de Développement économique régional*) were established in March 1964. With an explicitly public character and a representative membership (including persons appointed by the Government to act in their individual capacity), these commissions advise the *Commissariat général au Plan* on all questions relating to economic and social development in their region and are kept informed of the progress of plan implementation.

Institutions created to assist in the financing of regional development include 15 *Sociétés de Développement Régional*, which mobilize regional savings to serve regional growth. These are private bodies working under State control, and their shareholders benefit from State guarantees.[48] The Sociétés finance mainly small and medium-sized enterprises, mostly by arranging collective bond issues, but so far their activity has been very limited, reflecting both a lack of funds and a lack of experts able to give the technical assistance that is also needed by small enterprises. A pooling of the resources of several *Sociétés* — especially technical experts and research offices — could probably increase their effectiveness. Moreover, their methods of financing need to be more diversified in order to meet the needs of many small and medium-sized enterprises which cannot use bond issues as means of finance even with the help of the *Sociétés*. However, they are not yet permitted to make direct loans.

The *Loi d'Orientation agricole* of 5 August 1960 created another instrument of regional development, the *Sociétés d'Aménagement foncier et d'Etablissement rural* (SAFER), operating in the agricultural sector. These associations are intended to improve the structure of the agricultural sector, by encouraging the consolidation and merging of holdings and by other means. A central association helps to establish regional associations by providing studies, technicians and finance.[49] There are also six *Sociétés d'Équipement*, which have both private persons or enterprises and public corporations as shareholders; they are intended to finance such projects of public interest as the improvement of urban facilities and the establishment of industrial zones.[50]

Under the Fourth Plan, three main types of policy are gradually being applied in regions with different levels of development:

(*a*) The " concomitant policy ", which is to be applied in areas where the economy is spontaneously expanding in step with national growth, and where the State will therefore merely ensure the creation of the necessary infrastructure to support this growth;

(*b*) A stimulating policy, to be adopted in regions where economic development is lagging or where a region is actually declining; and

(*c*) A " mixed " policy, to be followed in the regions where population and industry are tending to become over-concentrated, which seeks to encourage an increase in the efficiency with which the local resources are used and to restrain any expansion which can only take place at the expense of a further drift of population and enterprise from the poorer regions.[51]

The Fourth Plan emphasizes the need to create a large number of new jobs in the labour surplus regions, so as to keep internal migration within reasonable limits;[52] and a map of regional manpower imbalances has been drawn up, the prospective manpower supply in each region as estimated by the *Commission de la Main-d'Oeuvre* being compared with the manpower needs estimated by the *Commissions de Modernisation*. Excessive immigration has contributed, in the recent past, to the hypertrophy of certain regions (especially Paris and Lyons) and has set off a cumulative process of concentration which it will now be extremely difficult to reverse.

The plan foresees a group of classical policy measures for stimulating economic activity in the labour surplus regions: public investment in infrastructure,[53] fiscal incentives and improved credit facilities, investment

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ment in each region, and the powers of the presiding prefect (appointed from among the prefectoral members of each *Conférence*) were strengthened. Assisted by a group of senior officials, constituting a sort of regional economic general staff, the presiding prefect (whose role was formerly more one of co-ordination) now enjoys the status of " regional prefect ", with clearly defined authority over other departmental prefects of the region.

[48] The *Fonds de Développement économique et social* may also support particularly important local ventures.

[49] One objective of SAFER was to create farms of an economic size on land they had purchased and to re-sell them to farmers, who are granted loans of up to 60 per cent of the purchase price. However, the available financial resources often proved inadequate for such operations (see *Le Monde*, 28 April 1964).

[50] For further information on the composition and activities of the SAFERs and *Sociétés d'Équipement*, as well as of the other regional bodies mentioned above, see the annexes to *Rapports d'Exécution des Plans régionaux pour l'Année 1961*.

[51] Thus, one contribution to decentralization is to be the location of various public institutions in the provinces.

[52] Three regions in particular — Brittany, the Département du Nord et Pas-de-Calais and the Massif Central — suffer from the gap between a rising supply of labour (as a result of the natural growth of population and the modernization of agriculture) and insufficient job opportunities in industry and the services. In the south-western regions, the supply and demand for labour have been in an uneasy equilibrium at a level which is insufficient to provide a satisfactory rate of growth of per capita income.

[53] Particular attention is devoted to the improvement of the transport network, schools of all grades and urban and rural equipment, and also to the decentralization of public entities (administrative, industrial, scientific, technical, cultural and social).

premia, etc.; and financial aid to industrial enterprises is intended to be offered on a basis that is regionally (as well as in other respects) highly selective. A well-defined policy of development zones is advocated, centred on Montpellier, Limoges, Bordeaux, Nantes-Saint Nazaire, Brest and Lorient; and it is stressed that scattered and unco-ordinated efforts would waste resources.

As was mentioned above, the earlier regional plans were mere inventories of the resources of the regions, accompanied by rather general indications of long-term development possibilities. They did not include any definite time-table, nor indicate the prospects of obtaining finance. The Fourth Plan, in contrast, lays down year-by-year programmes (*tranches opératoires*) for public and (in less detail) private investment in each region over the plan period. These are not budgetary allocations, but they are attempts to foresee with a certain degree of precision what investments can be realized, when, and on the basis of what sources of finance. They are the result of discussions between the administrations concerned and the *Commissariat général au Plan* and are subject to the final approval by the *Comité interministériel pour l'Action régionale et l'Aménagement du Territoire.*

In 1962 and 1963 new emphasis has been placed on regional policy. Investment premia and fiscal incentives have been increased and extended to new regions, while special measures have been taken in favour of specific sectors.[54] New efforts have been made to simplify further the procedures of regional action; new formulae for the decentralization of the administrative processes are being tried in some departments and in one pilot project.[55]

So far little can be said about the results of these new efforts to improve regional planning and plan implementation. Most of the specific measures for implementation — such as public infrastructure investment and selective stimuli to enterprise investment — have been available since, at least, 1955.[56] The real innovation of the Fourth Plan lies neither in the general objectives nor in the detailed policy instruments, but in the effort now being made to utilize the existing machinery more effectively and in conformity with the overall targets of the national plan.

A balance sheet of a decade of past efforts shows very small results. Figures produced by the *Commissariat général au Plan*[57] show that in the four years 1959-1962 the 862 actions of decentralization produced 130,000 jobs outside the Paris region. An annual average of 32,000 jobs created is hardly impressive when set against the continuing increase of some 150,000-200,000 a year in the population of the Paris zone, of which more than two-thirds are immigrants from other regions. Moreover, most of the dispersals have been to localities within only 200 km from Paris. The western departments have benefited most from regional action while the southern regions, especially Aquitaine and the Midi-Pyrénées, have attracted relatively few enterprises. In short, the economic gap between the regions has been widening; and measures to check the cumulative process of concentration in the richer regions might be likened to attempts to reverse the flow of a river.

However, in some respects, it may prove fortunate that past efforts to promote projects of regional development have not been more fruitful. The result might well have been a waste of resources which often results from a policy that is not based on rational economic calculation. In the context of current regional planning problems, the Commissaire général du Plan has posed the following question: " How can one avoid the risk of an accumulation of stimulants, which might then seriously endanger the economic stability of the strong areas, sap the vigour of the whole economy and consequently harm the poorer areas themselves? Whenever a stimulant policy is applied, it becomes necessary to lay down a new economic rationale."[58] If rational criteria for regional development can be established, and clearly translated into the elements of a long-run " irreversible " policy, some of the existing difficulties in inducing decentralization should be lessened. For example, when it is known that the Government has balanced the direct and indirect costs and benefits of its chosen line of policy and is prepared to meet the former on a long-term basis, managements may be more willing to settle in development zones, feeling that the risk of a reversal of policies has been reduced. However, the elaboration of a rational and effective decentralization programme and its implementation will certainly extend far beyond the time-limits of the Fourth Plan.[59]

In 1963 an effort was made to achieve a greater degree of compatibility between regional objectives and the national plan, through the creation of the *Commission nationale de l'Aménagement du Territoire* consisting of 50 chosen experts and 29 representatives of different branches of the administration. It is charged with assisting the *Commissariat général au Plan* in the preparation of regional development studies and their integration into the national plan. However, it is expected that initially the *Commission* will be mainly concerned with general research and that more concrete activities will be undertaken only during the operation of the Fifth Plan. In the meantime, on a more practical level, a *Délégation à l'Aménagement du Territoire et à l'Action régionale,* attached directly to the Prime Minister's Office, is responsible for liaison between the *Commissariat général au Plan* and the Government on regional questions and for the co-ordination of regional policy decisions with the objectives of the plan.[60]

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[54] Thus in special zones rural action has been emphasized, especially in the fields of equipment, the rationalization of techniques, education, etc. Industrial conversion has been undertaken in the " Forges de Boucau " (Basses-Pyrénées) which is financed by the ECSC and State aid and a policy of concentration, conversion and integration has been adopted in the shipbuilding industry. Study groups *(Tables rondes)* have been created to deal with the problem of such declining sectors as coal and iron. For further details, see *Rapport sur l'Exécution du Plan en 1962 et 1963,* Commissariat général au Plan, Paris, 1963.

[55] The pilot project selected for an experiment in the simplification of administrative procedures is the touristic development of the Languedoc. An inter-ministerial committee is in charge of following directly the preparation and execution of the development programme. Representatives of the central administration can commit their respective ministries at the regional level, a procedure which simplifies and accelerates decisions and their execution. It is hoped that this new approach can be used in other regions or on other projects.

[56] In addition to the stimuli for the decentralization of industry already referred to, a law of December 1958 imposed restrictive measures in the Paris region.

[57] See *Rapport sur l'Exécution du Plan en 1962 et 1963.*

[58] P. Massé, *French Planning: Present Situation and Future Prospects, op. cit.*

[59] Statistics on regional economies are still fragmentary. It is said, in the Fourth Plan, that measures will be taken to improve the situation, but it seems that clear ideas about the indicators that are needed and the techniques which need to be used in their collection are not yet fully developed.

Conclusions

It is difficult, if not impossible, to evaluate at all precisely the effectiveness of the instruments for plan implementation so far applied in France. They have been developed gradually, they are being constantly adjusted and improved in the light of experience, and it is not always easy to distinguish the inherent effectiveness of any group of instruments from the consequences of the consistency or otherwise of the various aims which they were ostensibly being used to promote.

First, however, it may be noted that the priority aims of postwar planning in France — a steady expansion of production based on "modernization" of the economy and the achievement of a high rate of return to factor inputs — have been realized. France has been able to maintain more consistently than most other industrial western countries a relatively high rate of economic growth. Even during the periods of acute inflationary pressure, gross domestic fixed capital formation has been allowed to expand in every year since 1953 (again in contrast to most other western industrial countries) with the sole exception of 1959.[61]

Moreover, France stands out as a particularly efficient user of scarce resources. As is shown in the ECE study "Some Factors in Economic Growth in Europe during the 1950s",[62] the investment ratio in France was rather low and the growth of the labour force the lowest among western countries. The high return to inputs in terms of growth of output — in other words, the very efficient use of factors of production — must be associated, in part at least, with the allocation of investment resources according to plan targets. The preference given to the basic sectors in the early years widened supply bottlenecks which might have hampered overall growth; the strong financial controls and selective fiscal incentives for preferred investments which followed were directed, not only to achieving the desired branchwise pattern of investment, but more generally to promoting modernization and rationalization. Moreover, fast growth continued without the development of either serious bottlenecks or excess capacities due to lack of complementarity. "Would all this have been possible without the effort of planning? It seems not: the delays, mistrusts, the routine accumulated before the war, could not have given way to the undoubted dynamism which the French economy has witnessed for fifteen years, sometimes despite considerable social and political difficulties, without the element of a catalyst of energies and imaginations provided by the Plan."[63]

As was noted above and in Chapter II, however, the objectives of domestic price stability and balance-of-payments equilibrium were not achieved; and this reflected inadequacies in the machinery for policy implementation in these fields as well as the lower priority in fact assigned to these aims. The co-ordination of short-run counter-cyclical measures (both among themselves and with longer-run policies) has certainly been improved in recent years;[64] but the major gap in the armoury of measures for price stabilization remains — the lack of some direct means of influencing the rate of increase of money incomes. The indirect influence that can be exerted by budgetary, monetary and credit policies inevitably carries the risk that price stability may sometimes be attainable only at the cost of hampering expansion. Moreover, as has been noted above, even if French Governments were in future willing to accept the social disadvantages of domestic price inflation as the price of expansion, the effects on the balance of payments are likely to become increasingly difficult to correct by the means used in the past. Some of the problems arising from the application of an effective incomes policy (and it was noted above that an attempt is to be made to integrate one into the Fifth Plan) are linked with one widely recognized weakness in the present methods of plan preparation, which is bound to have adverse effects on some aspects of plan implementation also — the insufficient participation of the trade unions.

In this context, the concept of an économie concertée has only limited meaning. Although trade union participation in the work of the modernization commissions and working groups is provided for, the unions have provided neither a sufficient number of representatives nor very active co-operation. This may have been due, in part, to mistrust of a planning authority which was considered to be run by an administration in league with management, but also to the fact that the discussions in the planning organs are often of a highly specialized technical nature for which trade union representatives may not always be sufficiently prepared. It has been officially stated that to encourage adequate workers' representation, it is intended to reduce somewhat the number of working groups of certain commissions which have "tended to over-refine their analyses" and to start a programme of economic indoctrination.[65] While it is not intended to bring about numerical equality of the various social and professional groups working in the organs for plan preparation (which would be rather pointless since these bodies do not take decisions by vote and all members can freely express their individual views), it is thought important to strengthen the role of trade unions by giving more responsible tasks to their representatives within the commissions or working groups.

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[60] Decree No. 112 of 14 February 1963 *(Journal officiel, Lois et Décrets,* 15 February 1963).

[61] See the *Economic Survey of Europe in 1961,* Part 2, Chapters IV and VI.

[62] *Ibid.*

[63] C. Gruson, Directeur général de l'I.N.S.E.E. "L'Expérience française de Planification", *Reflets et Perspectives de la Vie économique,* March 1963.

[64] For a discussion of some of the weaknesses of the past see the SURVEY for 1959, Chapter VI.

[65] P. Massé, *French Planning: Present Situation and Future Prospects, op. cit.*

Although France is less dependent on foreign trade than most of the other western countries which formulate their economic policies within the framework of a plan, an increasing difficulty for planning in that country arises from the fact that some of its major trading partners have no plan at all and that no common policy of plan co-ordination has been evolved even with those which have. " In view of the uncertainties introduced into French planning by the progressive lowering of national barriers in certain branches of activity, future activity will be less a question of all-powerful planning than of the modern Theory of Games in which the intentions of the opponent must always be taken into account. The difficulties created by this situation (which affect the drafting of the plan as much as its implementation) must be solved by working out progressively within the European Economic Community a common policy in sectors in which the limits of useful competition have already been, or soon will be, reached; i.e. a common agricultural policy, a common energy policy and, some day, perhaps, a common policy for the automobile industry." [66]

(b) Norway

In Norway, in contrast with France, the existence of a medium-term plan has not so far led to the creation of many institutions or instruments specifically geared to plan fulfilment; the main exception is the field of regional planning (see below). However, the traditional instruments — or, in more precise terms, the instruments already existing before the practice of drawing up the medium-term plans began — have been adapted to serve the aims of the plan. As indicated in Chapter II, these aims have included the maintenance of a very high rate of investment as the key to overall economic growth and the industrialization of the less developed areas of the country.

The national budgets

In Norway, as in France, the medium-term plans formally embody the Government's broad policy objectives. The annual national budgets are prepared in the light of the objectives and targets of the plans as well as of the short-term pressures to which policy has to be adjusted; and they are, in effect, annual plans representing both expected progress towards the longer-term objectives and — in fact if not in form — the continuing process of review and modification of the medium-term plan targets in the light of experience and of developments not foreseen at the start of the plan period. By presenting these annually to Parliament and the public, together with the normal fiscal budget, the Government not merely gives its own executive agencies a binding programme of action for the year ahead, but it also provides the private sector of the economy with a regular statement of official intentions and expectations against which their own plans can be made. Thus, the national budgets are a useful means of gearing the whole economy to continuing implementation of the medium-term plan targets — including understanding of, and conformity with, any implicit or explicit revisions of them.

The advantages of national budgeting as practised in Norway have been summarized in the light of experience as follows: it " brings into the open the assumptions and projections that must be made by the policy-makers — if they want to pursue a policy at all. National budgeting thereby assures more careful consideration of the assumptions and projections . . . and facilitates adjustment of policy if and when assumptions or projections are falsified by actual development. The merits . . . do not seem to lie so much in the ability to predict . . . as in the possibilities of applying the model for improving the consistency of a large number of assumptions and projections made by different policy-makers and at different points of time." [67] Close contacts between the various government agencies at all levels are established in the process of preparing the national budget, problems of specific sectors have to be considered in the light of the problems of the whole economy, and the economic thinking both of officials and members of Parliament becomes better informed and more sophisticated.

Direct instruments for plan implementation

Among the more specific instruments of plan implementation which the Norwegian Government itself regards as of special importance are control of credit, the licensing of industrial building and the special measures used to promote the development of relatively backward regions. Tax and subsidy policies and price controls have also had some importance as measures for pursuing long-run objectives as well as for short-term counter-cyclical policy. Fixed capital formation by the public sector has been about 25 per cent of the total in recent years.

Credit control

The control of credit is exercised by three main means: extensive direct financing of investment through the fiscal budget and through state banks; control of bond issues; and annual agreements involving in most years the establishment of credit ceilings for private lending institutions. Co-ordination is assured by the setting up of an annual " credit budget " closely related to the investment level assumed in the National Budget. The Monetary Policy Office of the Ministry of Finance proposes what it considers to be an " acceptable " pattern of financing of the planned volume of investment by the various public and private credit institutions and by bond or share issues (after allowing for expected self-financing and direct borrowing abroad). In the case of private lending activities this is followed by negotiations in the Joint Consultation Council — composed of representatives of the central authorities and the private credit institutions concerned (see below) — on general monetary and credit policy, on the credit ceiling for the private institutions, on the holding of certain assets (such as securities of the Government or the state banks) by these institutions, and on the degree of priority to be given to borrowing for particular purposes (such as dwellings construction, industrial development of backward regions, etc.). The negotiations take place shortly after the presentation of the National Budget to the Storting. However, several meetings are held during the year in the Joint Consultation Council, where a rather co-operative atmosphere seems to have developed. The representatives of the private credit institutions are therefore in a position to influence the " credit " budget prior to the final negotiations of the annual agreement.

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[66] *Ibid.*

[67] P. Bjerve, *Planning in Norway, 1947-1956*, Amsterdam 1959, pp. 335-336.

Direct financing of investment from the central budget covers mainly electric power supply, communications, and investments in a few big industrial enterprises — for example, in the steel and aluminium industries. State participation in such industries has been undertaken partly to encourage development which might not otherwise have proceeded so fast in the context of the small Norwegian home market, partly in order effectively to influence their location in the interests of balanced regional development. By controlling concessions for hydro-electric power generation, and by financing a large part of investment in this branch, the Government has the opportunity of influencing both the volume of generating capacity and its siting in accordance with industrialization and regional development policies (see also below).

The state banks are a special feature of the Norwegian credit mechanism. Most of them were established during the inter-war period, with the purpose of providing finance for certain sectors of the economy which could not readily satisfy their needs in the normal capital market and which were considered of special social and economic importance. The banks' resources are provided, for the major part, by loans from the central budget. The field of operation of each of the state banks is determined by law; but they are independent in their day-to-day activities. However, since 1954, the National Budgets have fixed annual ceilings for new loans to be granted by each of them and today they have assumed the character mainly of executive organs of government policy.

The most important of the state banks is the Housing Bank, which accounts for more than half of the total credits granted by the state banks and has financed more than 70 per cent of all dwelling construction in recent years. Moreover, almost all state subsidies for dwelling construction are granted through the State Housing Bank. Four other state banks have also developed a significant volume of activity. The Municipalities Bank grants loans for the financing of municipal investments, mainly construction of power plants and, in recent years, schools; the Small Holding and Housing Bank lends mainly for dwelling construction in rural areas and for investment in the farming sector; the Industry Bank lends to industry (including electricity generation) and for hotel construction; and the Fisheries Bank lends to the fishing industry mainly for the purchase and modernization of fishing boats. Since the state banks contribute more than one-third of the total flow of domestic investment credit (that is, excluding direct borrowing from abroad), the Government's ability to fix ceilings for their annual lending — and even, as in 1962, to lower during the year the ceiling originally agreed — is clearly a powerful means of influencing the total volume of fixed investment, at least in conditions of generally strong investment demand. It also enables its pattern to be influenced, since each bank's activity is limited to a prescribed economic sector; but instructions on priorities to be observed within each sector have been given only occasionally and in rather general terms, stressing regional considerations or suggesting priorities for certain industrial branches.

The control of bond issues, introduced in 1953 and exercised by the Ministry of Finance, is by its nature a highly selective instrument, since no new issue can be made without the specific authorization of the Ministry. The consultations on any application with the various technical agencies and ministries — notably the Ministry of Industry which manages the building licensing system and which is in constant contact with private business — clearly provide a useful opportunity for combining the efforts of different branches of the administration to support such priority projects as the construction of power plants and the development of backward regions. However, it appears that, in practice, control has been used more with a view to establishing a reasonable timing of bond issues in the interests of overall credit control than as a deliberately selective measure.

Closer control by the Government over the remainder of the capital market has been steadily developed during the fifties. When the dismantling of physical controls affecting investment began at the beginning of the fifties, the Government stressed the need for an effective credit policy as an alternative; and various proposals for legislation to establish formal central control over private credit institutions have been made in subsequent years. Against this background, the private credit institutions have shown themselves willing to co-operate with the Government on the basis of agreements reached under the aegis of the Joint Consultation Council — mentioned above — which was established in 1951. Discussions in the Council in the years immediately following resulted in contributions by the commercial banks, savings banks and insurance companies to the financial resources of the state banks which, given the general shortages of liquidity, were finding it difficult to raise funds by other means on terms that the Government would sanction. The importance of the Joint Consultation Council has subsequently increased steadily to the point where it is officially stated that " the central monetary and credit policy instrument applied during recent years is the credit agreements with the banks and insurance companies ".[68] As noted above, the annual consultations now result not only in a formal agreement fixing both total credit ceilings and the amount of finance to be supplied from private to state institutions, but also in some less precise, and less binding, understandings on the relative priorities to be accorded to different types of investment. The last significant loophole in the system of overall credit control was closed in 1963 by the incorporation in the agreement of principles which are to govern the raising of foreign loans by the credit institutions.

Until recently the connexion between the annual agreements on the ceilings for lending by the private institutions and the medium-term plans has been tenuous and bound up with the relationship of the annual " credit budget " to the National Budget and of the latter to the plan. However, in 1960 the Council also reached agreement on the main outlines of the monetary and credit policy to be adopted over a longer period — 1960-1964 (this period does not coincide with the current medium-term plan). These indicated the amount of state and state-guaranteed borrowing which the private institutions are likely to be required to finance, and the circumstances in which the Norges Bank would act to increase their lending capacity should the economy's requirements of fixed and working capital necessitate such action. This " frame agreement " stated that " a more detailed and concrete policy [within its general framework] is to be agreed upon each year." The agreement for 1963 stressed the relevance of both the specific longer-term objectives of policy and the current short-term preoccupations with internal price stability and the balance of payments: " The National Budget for 1963 is designed to further the objectives of the Government's long-term programme which implies that public consumption and public investment shall increase relatively more than private consumption and private investment. It is, moreover, a central task to restrain the import surplus and the pressure on prices and ensure that the increase in demand shall not be greater than the growth in production warrants." [69]

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[68] *Økonomisk utsyn over året, 1962 (Economic Survey, 1962)*, Oslo 1963, p. 107.

A Royal Committee has been studying the instruments of monetary and credit policy and presented its report in January 1964.[70] No complete agreement was reached by the Committee but new legislation on monetary and credit policy is likely to be tabled soon. Agreement between the authorities and the private credit institutions is to remain the main principle in the formulation of monetary and credit policy, but new legislation is to place at the disposal of the Government policy instruments which allow the amount and composition of the credit supply to be directly influenced. Furthermore, the lending activities of private credit institutions other than commercial banks and savings banks are to be brought under more effective central control.

Controls over building and construction

The present legal basis for direct control of building and construction is a law of 1955 according to which any new building must be licensed before work can start. Extensive exceptions to this rule have been made for dwelling construction. The most important regulations still effective are the licensing system for industrial building, administered by the Ministry of Industry, and the control over most public building (other than dwellings) by local authorities, exercised at the county level.[71]

The Government fixes the annual quotas within which the various types of construction may be approved. In recent years the share of building activity subject to licensing has ranged between one-third and one-fourth of the total. Since the authorities control the financing of a further one-fourth of building activity through the state banks and the central government's budget, only about 40 per cent of total building activity is entirely free from intervention.

The ability to influence the pattern of construction by means of building licensing depends essentially (as to a lesser extent does the ability to influence the pattern of all fixed capital formation through the credit mechanism described above) on the maintenance of a generally strong, even excessive, demand for construction in general. During the postwar years, investment demand has been fairly consistently strong; and in these conditions building licensing has helped to achieve the desired priority of, *inter alia*, power plants and, in recent years, schools and hospitals; it has also been used to further regional development policies. It seems, in fact, that the licensing system has been used as effectively for this last purpose as for influencing the detailed sectoral pattern of investment, even though considerations of regional development have, in general, only influenced decisions on new projects and not those on applications for extensions of existing enterprises.[72] The directives issued to the licensing authorities for their guidance when deciding the pattern of construction by industrial branches have included so many criteria, apparently of equal importance, that any attempt to make a selective choice must have been extremely difficult.[73]

Nevertheless, output statistics show that the branches which are given high priority in the plan, such as metallurgy and chemicals, have developed much faster than others. Output of the former branch rose by 189 per cent between 1950 and 1960 and of chemicals by 98 per cent, compared with an industrial average (excluding electric power generation) of 48 per cent.[74] In the ferrous ores and metals branches, state financing of development provided an important stimulus. Statistics of industrial building clearly reflect the more liberal licensing policy for the less industrialized regions; [75] and the knowledge that such discrimination was intended may itself have encouraged industrialists to search more thoroughly than they otherwise would have done for profitable locations in the less developed regions.

Finally, the concession law on the exploitation of water resources merits attention. Under this law, the Storting has to approve the location, size and timing of construction of power plants. On the basis of detailed and ambitious plans for the development of electric power generation, the allocation of concessions has been used to promote the desired pattern of regional development by using the availability of cheap electricity to attract power-intensive industries to less industrialized regions. As the power stations have been financed to an increasing extent by public funds or by foreign capital, the Government has an even wider control over the growth and location of energy generation than the concession system alone provides. Electricity prices are subject to the approval of the authorities, as are all long-term contracts for energy supplied to large enterprises from state-owned power plants.

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[69] *Norges Bank Bulletin*, No. 1, 1963, p. 23.

[70] For a summary in English of the report, see *Norges Bank Bulletin*, No. 1, 1964.

[71] There is also a small annual quota for industrial buildings in the agricultural sector, administered by the Ministry of Agriculture.

[72] *Om utbygging av industri i distriktene* (On Industrial Development in the Regions), St. Meld, No. 6, 1959-60, pp. 88-89.

[73] *Ibid.*, p. 88. The types of application to be accorded priority (provided they promise reasonable profitability and are technically well planned) include those to expand export industries that are competitive in the world market, those conducive to a more rational utilization and further processing of the country's raw materials and other resources, applications for the expansion of home-market industries in branches where a greater degree of self-sufficiency is desirable, applications for projects which attract substantial foreign capital and, even, cases where a refusal would mean an unjust treatment of firms in the same branch.

[74] *Langtidsprogrammet, 1962-1965*, St. Meld, No. 60, 1960-61, p. 47.

[75] See footnote 72.

Regional development

The policy of regional development in Norway, referred to several times, dates from the very early postwar years when it was seen as an essential element in the attainment and maintenance of full employment, one of the major economic objectives. Much of the unemployment and underemployment existing in that period was concentrated in certain regions and the relevant local authorities were urged to encourage the creation of new employment opportunities. A country-wide survey of local employment problems by the regional planning offices of the Labour Directorate, initiated in 1948, was completed by 1955; and the plan for 1954-1957 dealt specifically with the production and employment problems of the " development " areas and with their possible treatment.

As indicated above, investment controls have been continuously applied with regional development policy in mind. Special measures were taken as early as 1951 for the development of northern Norway. A development programme was formulated, a fund created to help finance new investments by loans and guarantees and special exemptions from taxation accorded to income set aside for investment in the region. These measures have helped to establish a number of small- and medium-sized enterprises in the region, and these have contributed to a fairly diversified development based on the provision of infrastructure (such as communications), cheap power supplies and a few very large mining and other industrial enterprises established wholly or partially by means of state financing. The liberal lending policy pursued by the state banks, the emphasis placed on the importance of regional development policy in the annual credit agreements governing the lending activities of private credit institutions and building licensing have all favoured the development of the north.[76]

In the mid-fifties, emphasis in the regional development policy began to shift from northern Norway to the more localized employment and development problems throughout the country. After completion of the country-wide analysis of regional problems in 1955, the Labour Directorate and its local agencies were instructed, by the Employment Act, to " contribute to a systematic and rational development of economic activities and to the co-ordination of measures in this respect " in the interests of the lagging areas. Simultaneously a new development fund was created to guarantee loans to be used for purposes which offered the prospect of a permanent increase in the number of jobs in such areas. This fund (which is still not very large when compared with that established for northern Norway) was merged with the northern Norway fund in 1961, though the resources of the latter are still earmarked for activities in that region. The special tax provisions for encouraging investment in northern Norway were also modified but they remain more favourable than those simultaneously introduced to encourage investment in manufacturing industry in other localities in the country with special employment problems and/or a particularly low per capita income. The latter localities are beginning to receive more attention in the implementation of the authorities' measures for influencing investment through credit control and building licensing.

The recent creation of a regional planning division in the Ministry of Municipal and Labour Affairs (see Chapter III, section 2) can be taken as an indication of greater efforts to co-ordinate regional development policies with overall economic planning in the country.

Measures for influencing the general balance of the economy and use of resources

It was noted in Chapter II that the allocation of a very high share of gross national product to fixed capital formation has been a major target of all Norwegian plans during the postwar period. In fact, the investment ratio, and the rate of domestic saving alone, have remained among the very highest in western Europe. Essentially, this has been achieved by a combination of budgetary policies restraining the growth of consumption and an assurance of finance on attractive terms for the investment desired by the authorities, strongly reinforced by physical controls in the earlier years.

Throughout the postwar period interest rates have been kept at very low levels, by western European standards; and the Government has refrained from using frequent variations in interest rates as a counter-cyclical measure.[77] Physical controls were kept in operation longer in Norway than in other western European industrialized countries. As they have been gradually removed, fiscal and financial measures and efforts to keep the community as a whole, and industrialists and other important economic decision-makers in particular, informed about and in sympathy with the Government's economic objectives have had to carry — on the whole successfully — a greater share of the burden of managing the economy.

Import control was an important means of restricting the growth of " luxury " consumption in the early fifties — imports of motor-cars were restricted until 1960 — and high rates of indirect taxation on luxury goods have also played, and still play, an important role; between them, these measures may have contributed to Norway's very high rate of private saving.[78] Willingness, and ability, to borrow abroad have provided a certain flexibility in the balance of payments. This, combined with the use of subsidies and price controls, has generally enabled the authorities to avoid imposing sharp checks on the growth of investment in the interests of the short-term balance-of-payments position (though measures to reduce the pressure of investment demand, or to prevent it becoming fully effective, have had to be taken from time to time). The Government has also affirmed its belief in the usefulness of the building-licensing system as a means of limiting pressure on the construction industry when necessary (as well as for influencing the pattern of construction), without exerting that downward pressure on total investment demand and overall activity which is almost inseparable from any sharp restriction of credit or other measures of monetary restraint.[79] At the end of 1962 a law was passed to provide a "reserve of demand" for future investment by exempting from liability to tax up to 20 per cent of the taxable income of enterprises, provided that this was set aside for future investment. Release of the reserves for this purpose will be authorized by the Government in the light of the economic situation and, at the latest, four years after the deposit has been made. This measure is modelled on Swedish experience [80] which suggests that it may prove a useful instrument for short-term regulation of investment demand.[81]

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[76] In the early years the industrialization of northern Norway ranked first in the criteria governing licensing decisions mentioned in footnote 73.

[77] The discount rate was 2½ per cent until 1955; since then, it has been 3½ per cent. In the other western European countries under review in this section, interest rates have been varied frequently and in the United Kingdom, for example, the bank rate was, briefly, as high as 7 per cent.

A continuing concern of Norwegian policy has been to bring about a more equitable distribution of real personal income. Consumer subsidies, price controls and direct action to raise the lowest incomes have been used for this purpose. Agreements between the Government and the farming organizations provide for automatic adjustments of the prices of agricultural products alongside changes in the general wage level, and fishermen's incomes are also regulated through annual agreements on price subsidies, etc. The farm price agreements have kept the rise of real incomes in agriculture more or less in line with increases in other occupations, but have added to the danger of a wage-wage or wage-price spiral should inflationary tendencies develop. The use, in the past, of price controls and subsidies for avoiding such spirals has not always been entirely successful; and the Norwegian Government now shares the general concern of most countries heavily dependent on foreign trade — and increasingly precluded by international agreements from the use of direct controls or variations of import duties as measures of short-term adjustment — to find some more effective methods of regulating the rise of money incomes and the rate of domestic cost/price inflation.[81a]

It is not intended to set up any formal organ to implement an "incomes policy" but in 1963, when strikes and lock-outs in connexion with the conclusion of new wage agreements seemed likely, the Government played an unusually active part in the negotiations, and the agreement proposed by the official arbitrator was finally accepted by both workers and employers.[82]

Conclusions

A number of interesting points emerge from a consideration of Norwegian planning experience. The most striking result of Norwegian planning is the extraordinarily high rate of investment and domestic saving that has been induced by the traditional method of high taxation in combination with the restraint of the growth of some types of consumption, liberal credit policies and low interest rates. Secondly, the Government itself has taken the lead in providing the basic communications and power supplies, etc., for regional development and, by various means, has achieved a very close control of the pattern of investment, given a generally strong pressure of demand. The credit mechanism and building-licensing system have not been used to force industrial investment into a detailed, predetermined pattern. But the priorities accorded to some key branches of activity or to particular regions could have been developed into a system of more detailed control had it not been decided — partly as a result of the lack of rational investment criteria — to leave a large field open to normal market influences; the machinery for rather detailed control exists. Thirdly, there remains the influence of the plan itself, including the influence on private decisions of the preparation and publication of the annual National Budgets as a kind of continuing control and revision of the longer-term plan. The plans and budgets are not subject to the kind of widespread negotiation and discussion with representatives of industry, etc., as they are in France (see sub-section *(a)* above); but the careful exposition and discussion in Parliament of the Government's forecasts and intentions certainly has a considerable effect on the actions of the private sector. Moreover, the regular preparation of the plans and budgets over a long period seems to have led to a better co-ordination of the broad lines of policy pursued in the public sector than has yet been achieved in most other western European countries.

On the other hand, the impression remains that the network of price controls, subsidies and indirect taxes used to promote wage and price stability in a context of the strong demand pressures conducive to — and to some extent consequent upon — a continuing high rate of investment has not always been successful in its main purpose. Another problem preoccupying the Norwegian authorities has been that of devising more rational criteria for guiding public decisions affecting investment, and particularly for guiding regional development policy. When not only profitability considerations but also wider social and economic desiderata have to be taken into account in choosing between alternative projects, an objective basis for the decisions is difficult to devise. Thus discussions on the appropriate criteria for selecting regions for special development efforts under the latest legislation are still under way; the next problem will be to choose the projects best suited for developing the selected regions. This is an aspect of planning which deserves more attention — and not only in Norway.

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[78] See the SURVEY for 1961, Part 2, Chapter IV, Table 6.

[79] See *Stortings Forhandlinger*, Vol. 3a, 1958, Ot. prp. (draft law) No. 9.

[80] See sub-section *(d)* below.

[81] It has been suggested that the effectiveness of this device may be limited by the fact that the time limit set for the release of deposits is relatively short. See H. Skånland, "Current Problems in Norwegian Economic Planning", *Weltwirtschaftliches Archiv*, Band 92, Heft 1, 1964, p. 109.

[81a] When domestic costs and prices move out of line with those abroad, this may have particularly unfavourable repercussions on the distribution of factor income between wages and entrepreneurial incomes in "exposed" industries, where selling prices are determined by the world market. For a discussion of the diverse experience of "exposed" and "market-protected" industries in Norway during the period 1957-1963, see *Økonomisk utsyn over året 1963*, Oslo 1964, pp. 134-135 (English summary).

[82] The intention of the Government, expressed in *The National Budget of Norway* (Ministry of Finance, Oslo 1962, p. 27) to maintain informal contacts with the organizations at the time of negotiation thus appears to have been quite successful. That such a success is difficult to repeat — at least in the absence of any generally agreed principles — is shown by the fact that in 1964 the Government was obliged to refer the wage dispute to the National Wage Board for compulsory arbitration.

Finally, it has to be noted that Norway has enjoyed only relatively low returns, in terms of economic growth, to the large amounts of capital invested during the fifties.[83] To some extent this may simply mean that the higher returns will be forthcoming when indivisible capacities are more fully exploited along with the rise in demand; [84] to some extent it reflects a deliberate decision to develop the northern regions in face of a high investment cost. Another possibility, however, is that the methods used to induce a high rate of investment may have encouraged a rather lavish use of capital inputs — in contrast with the stress laid on high factor productivity in French planning.

(c) The Netherlands

The major long-term objectives of economic policy in the Netherlands during the postwar period have been similar to those in Norway — giving a very high priority to further industrialization. However, less emphasis has been placed on regional development and, in view of the rapid growth of the Dutch labour force compared with the relatively slow rise in Norway, more has been placed on the need to provide new employment opportunities. In this latter respect the contrast with French conditions is even more marked and the great stress placed on raising factor productivity in France has been less noticeable in the Netherlands. The extremely heavy dependence on foreign trade of the Netherlands constitutes another point of contrast with France and of similarity with Norway. Both the Netherlands and Norway have been particularly concerned to encourage the establishment of new export industries — a need accentuated in the former country by the relatively poor prospects for its traditional exports of farm products. The Netherlands Government, even more than the Norwegian, has attached great importance to the maintenance of domestic price stability as a key to international competitiveness.

As was shown in Chapter III, in terms of the econometric methods used, the techniques of plan preparation in the Netherlands are among the most advanced in Europe. In contrast with both French and Norwegian practice, however, the Government is not formally committed to the priorities implicit in the longer-term plans, nor does it explicitly adopt the detailed targets or those of the annual National Budgets which supplement the plans. The Netherlands Central Planning Bureau is an advisory body which prepares both plans and national budgets in full knowledge of the Government's policy objectives and the general complex of measures which it is prepared to take to implement them. But, in form at least, the plan is a statement of the optimum pattern of economic development which appears possible with the battery of instruments which the Government is known to be prepared to use, and within the known constraints imposed by, partly or wholly, non-economic considerations. Within this framework, the Government can draw up its day-to-day fiscal, credit and other measures. Until recently most emphasis in Dutch planning has been placed primarily on annual plans, as a basis for short-term policy decisions. However, more attention is now being paid to the desirability of medium-term planning.[85]

The difference in the status of the plans, and in the influence of the planning body on their implementation between, on the one hand, the Netherlands and, on the other, France and Norway, is probably more apparent than real. The Central Planning Bureau has no executive powers for supervising plan implementation; but it expresses its views, either spontaneously or on request from the ministries concerned with economic and social policies, on the measures to be taken when actual economic developments deviate from plan targets. Moreover, the Director of the Bureau is a member of the Social-Economic Council, in which — as pointed out in Chapter III — representatives of entrepreneurial organizations and of trade unions and experts appointed by the Government advise the Government on all economic and social questions. One of the commissions of the Council— the Commission for the Development of the National Economy — is charged with the review of economic developments in the light of the longer- and short-term policy objectives and plan targets; and the Central Planning Bureau submits quarterly reports on economic developments to the Commission.

Differences in attitudes of the governments of France, Norway and the Netherlands on the instruments of policy which should be used to promote policy objectives and the realization of plan targets are more fundamental than differences in the formal status of the plans. In the Netherlands, the Government assumes the responsibility for ensuring full employment and equilibrium in the internal and external balance of the economy; but it is accepted that micro-economic decisions at the level of the individual industrial branch are, except in a few cases, best left to be determined by market forces. It is thought that, if a favourable climate for economic expansion is provided, structural adaptations to changes in consumers' preferences and in export demand will occur spontaneously. Thus, apart from selective measures to promote the desired pattern of regional development, the Netherlands authorities have neither attempted to establish comprehensive control of the credit mechanism, as in Norway and France, nor to exercise the detailed influence on industrial decision-making — through a discussion of possibilities and plans with representatives of individual industries — in the way that French planners do. Government policy has been designed to establish conditions for expansion on the basis of a fairly high rate of investment, particularly in industry, and with a view to controlling the rate of increase of money wages in the interests of a stable cost and price level and to improving the international competitiveness of Dutch industry. Far from attempting to influence the pattern of industrial growth, the Government has tried to apply these measures so as to avoid any discrimination among industries or enterprises.

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[83] See the SURVEY for 1961, Part 2, Chapter VI, section 3.

[84] The average rate of growth of GNP during the period 1960-1963 has been more than 5 per cent, compared with an average rate of 4 per cent during the fifties.

[85] See also Chapter III, section 2.

The regulation of aggregate demand

The regulation of global demand is given so important a place among the measures of economic policy chosen in the Netherlands that the techniques used deserve more attention than they have been given in the two preceding sub-sections. The background for the application of these techniques is the annual national budget. In the preparation of the budget, as is explained in Chapter III, the quantitative impact on the target variables of various possible combinations of measures is estimated so that the Government can choose that combination of measures which, within the limits of political feasibility, will ensure the closest approach to the targets of economic and social policy. The means available for short-term regulation of the volume of aggregate demand include — as in other countries — variations in Government consumption, in investment by the public sector, in transfer incomes paid from the budget or otherwise centrally controlled, in credit control, in monetary policy and changes in direct and indirect taxes and subsidies.

Government consumption absorbs only 8-9 per cent of total output, and such changes in it as can be readily made cannot therefore be expected to have an important influence on the economy. Public sector investment, on the other hand, can be an important regulator of total demand, since investment directly or indirectly subject to central control constitutes 40-50 per cent of total gross fixed capital formation.[86] Direct government investment expenditure is provided for in the budget; investment by public utilities is subject to central approval, and the supply of funds for investment in the state mines and railways is also subject to central approval of the project concerned. The Central Planning Bureau is informed by the Government of the broad lines of the public sector investment programme and gives its advice; but it has no direct say in decision-taking.

The extension of social security schemes has been timed with reference to stabilization policies; and a complex system of agricultural subsidies, import and export taxes and price guarantees has been established since the war with a view to reconciling a relatively stable cost of living with a reasonable level and rate of growth of agricultural incomes. Changes in direct tax rates have been used to influence investment activity as well as the rate of increase of consumers' demand.

The role of monetary and credit policy in the regulation of total demand has been very important in the postwar period. The 1952 Act on the Supervision of the Credit System authorized the Netherlands Bank,[87] after consultation with the representative organizations of the commercial and agricultural banks, to issue to these banks general quantitative instructions on minimum reserve requirements and credit ceilings, and qualitative instructions on the purposes for which credit might be granted and on the types of assets to be held. Advisory commissions were set up for several sections of the banking system; and the Government has to consult these commissions before approving the instructions of the Bank. If they raise objections, the Minister of Finance may submit a bill to Parliament to settle the dispute. In fact, credit policy has been implemented without the need of such intervention and the Netherlands Bank has always been able to obtain the full co-operation of the private banking system.

During earlier postwar years the Netherlands Bank also had some direct influence on the capital market. On the basis of an agreement between the Bank and the Minister of Finance, both commercial banks and stockbrokers had to contact the Bank before proceeding with any public or private issues of shares or bonds. These requests were examined to see whether they were in accordance with the priorities of the reconstruction plans; but, in fact, authorization was granted in most cases as soon as the issuing firms had obtained the necessary import and other licences required to provide the physical resources for the projects. Nevertheless, the contacts thus established between the Bank and the issuing houses tended " to bring about a better comprehension of the necessity to use the limited volume of savings available for claims which were of primary importance to the country's economic recovery ".[88] After 1951, individual qualitative control of credit was increasingly replaced by aggregate quantitative control; and supervision of the capital market was abolished in that year.

The only direct control of investment which has been maintained is the building-licensing system, since this sector has repeatedly proved a bottleneck to economic expansion. A building programme is formulated each year, specifying the volume of construction to be authorized in the various sectors of the economy — housing, agriculture, industry, trade and transport, and social construction (hospitals, churches, schools and government buildings). The licensing system is designed more to keep total activity within capacity limits than to influence the pattern of economic growth. For example, " industrial building " is a single category with no breakdown by branches, reflecting the absence of any intention to use this instrument selectively for favouring or restraining particular branches. However, priority has been attached to certain general objectives, notably the expansion of exports. Among the other sectors, needs for housing, schools and hospitals, determined on social grounds, have generally been given a fairly high priority. In all categories attempts have been made to ensure that authorizations of new starts are not on such a scale as to impede the completion of work in progress.

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[86] This includes nearly all infrastructure investment (including investment in electricity generation) and investment in mining.

[87] Nationalized in 1948 by the compulsory sale of shares to the Government.

[88] See *Annual Report of the Netherlands Bank 1947*, Amsterdam 1948.

Implementation of the industrialization policy

As already mentioned, rapid industrialization, as a key to the solution of employment and balance-of-payments problems, was accepted as a policy objective of high priority immediately after the end of the war. In 1949, the Minister of Economic Affairs, in co-operation with the Central Planning Bureau and other government agencies, prepared for submission to Parliament an industrialization programme (based on a comprehensive unpublished five-year plan) which explicitly incorporated the growth of investment and output required during the period of the programme to avoid unemployment and balance-of-payments difficulties, together with a survey of the related policy measures to be taken by the Government. Eight such industrialization memoranda have been published in subsequent years.

To advise the Government on problems of industrialization, the Main Committee for Industrialization, consisting of 30 members, was set up in 1949. Fourteen of its members are chosen from commercial and industrial circles (three by entrepreneurs' organizations and three by workers' organizations); six members are representatives of government boards and agencies (among them the Central Planning Bureau); ten are representatives of various ministries. The main Committee set up several subcommittees to deal with various aspects of the industrialization programmes.

It has been stressed in the Industrialization Memorandum of 1949 and in other government documents that, for implementing the industrialization policy, reliance should be placed mainly on the free decisions and risk-taking of private enterprise. The role of the government has been limited to creating a generally favourable industrial climate, to stimulating private investment in general, and to measures intended to strengthen the competitive position of Dutch industry on international markets.

Following the abolition of those controls — such as rationing and price controls — applied during the immediate postwar period of scarcity which were thought to hamper individual initiative,[89] fiscal measures and a stringent wage policy (see below) were used to encourage investment and to ensure a competitive price level. Fiscal incentives for investment took the form of accelerated depreciation allowances, tax exemptions for investment expenditure and greater opportunities for compensating past losses with current profits.[90] In addition to these fiscal incentives, fiscal obstacles to the achievement of a sound financial structure for enterprises were eliminated in the course of the 1950s, and this facilitated, among other things, recapitalization operations.

Special attention was also paid to the provision of adequate finance for industrialization. Even though the industrialization programmes were formulated on the assumption that total *ex ante* savings would equal total *ex ante* investment, financing difficulties could nevertheless have arisen from, for example, the fact that a declining proportion of total savings took the form of risk-capital.[91] A number of measures were taken to deal with this problem. Apart from the fiscal measures, already referred to, which made self-financing easier, central and local governments financed investment in such basic industries as steel and energy and chemicals; and credits from public funds were provided on a modest scale for the development of new products and production techniques. In addition, the Finance Corporation for National Economic Rehabilitation [92] which was set up immediately after the war to finance the repair of war damage, with the Government having a 51 per cent share in its capital, subsequently played an important role in financing industrialization. In many cases where it financed projects involving a considerable element of risk, the Government guaranteed interest and amortization payments to the Corporation; such guarantees were also provided for some of the loans granted by the Nederlandsche Middenstandsbank — a specialized commercial bank lending to small firms in industry and trade; and a special guarantee fund was created from counterpart funds (linked with United States aid under the European Recovery Programme) which gave finance companies the opportunity of transforming their assets into risk-capital for industrial ventures.

Attention was also paid to the supply of technical personnel for the industrialization programme and the stimulation of technical research. The capacity of elementary and secondary technical schools has been rather satisfactory; but a vocational guidance service was considered necessary to prevent too many young people from seeking clerical jobs. In the sphere of research, the Central Organization of Applied Scientific Research, consisting of several institutes and working groups for research in various fields, was established before the war (most of its cost was, and still is, borne by the Government). Since the war, the work of these institutions has been intensified and geared to industrialization; and close contacts have been established between the research institutes and the branches of industry concerned.

The official encouragement of co-operation between foreign enterprises and Dutch firms, with a view to the extension of Dutch enterprises or to the establishment of foreign subsidiaries in the Netherlands, also proved beneficial; and a special institute for providing relevant information was set up.

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[89] So long as rationing of foreign exchange was maintained, imports of investment goods needed for industrialization received high priority.

[90] The first two measures were frequently temporarily suspended and then reinstated according to whether there was a need for restraining or encouraging aggregate demand for investment.

[91] Among other factors, this could arise from the extension of social security schemes and the growth of pension funds, which are not permitted to hold risk-bearing assets.

[92] *Maatschappij voor Financiering van het Nationaal Herstel.*

Regional development policy

A regional development policy has been pursued in the Netherlands throughout the postwar period. In the first Industrialization Memorandum, published in 1949, the problem of structural unemployment in some regions of the country was raised and measures were taken for achieving a better geographical distribution of the labour force.

During the first period of regional planning — 1951 to 1958 — migration from the regions with relatively high unemployment to the western parts of the country was considered as a method of reducing the regional imbalances. Measures were taken to facilitate this movement, and a region was designated a " development region " only if it was found that migration could not be expected to make a reasonable improvement in its position, and if, in addition, structural unemployment in the area was acute. Also it was required that the improvement of conditions conducive to the establishment of industry should promise a reduction in unemployment and that the costs of a regional development plan would remain within acceptable limits.

On the basis of these criteria eight " development regions " were defined for which any or all of the following measures, depending on the circumstances of the region, could be implemented with assistance from public funds: the preparation of industrial sites; the improvement of transport facilities; the installation or extension of public utilities; the promotion of specialized education; and the construction of dwellings for the personnel of enterprises wishing to set up in the area. In 1953 these measures were supplemented by a 25 per cent grant, up to a stipulated maximum, towards any building costs incurred in establishing or expanding an industrial enterprise in a " nucleus " community. A condition for this was that, for each 50 m² of new floor space, at least one male worker from the local labour reserve should be given work and that, in any case, the enterprise would employ at least ten workers.

During the early stages of regional development planning it became clear that the migration of unemployed persons to the western parts of the country, one of the objectives of the regional development programmes, entailed important disadvantages, since the latter were among the most densely populated. Therefore, since 1958, emphasis has been on the need to spread industrial employment in a way that brings about a more balanced distribution of the population. The new policy affects larger areas than the original development regions. Within the new " problem areas " development " nuclei " are to be stimulated by new premia regulations and other provisions, including the reduction by some 50 per cent of the cost to an enterprise of industrial land in the development nucleus.

A considerable degree of industrial decentralization has, in fact, been brought about in the Netherlands. However, it has been shown that regional planning is by no means solely responsible for this.[93] In the first place, relatively low wages and large manpower reserves in the regions outside the western part of the Netherlands have played a role. Moreover, it appears that not only the development areas have benefited from decentralization, but also other regions in the northern, eastern and southern parts of the country. However, in some development regions — East Friesland, North-East Overyssel, North-East Noord Brabant and North Limburg — regional development policy has nevertheless been a significant factor.

The control of the wage level

The control of wages has, without doubt, been the most important policy instrument in the Netherlands, particularly in the early postwar period. An acceleration of the process of industrialization and, as a condition for this, a rise in the volume of industrial exports, were very dependent on the maintenance of relatively low costs. At first, the need to keep money wages as low as possible was most acute in the very early stages but as a safeguard to the preservation of a reasonable standard of living, wages were raised in step with the cost of living, direct price control being used as an adjunct to the wage policy. Later, when a higher level of per capita consumption could be afforded, increases in labour productivity, the desired shares of wages in total incomes and of consumption in the total national product, and the balance-of-payments position, were taken into consideration in the determination of money-wage levels.

The operation of a wage policy in the Netherlands has been made possible by the active co-operation of the trade unions, which are fully aware of the wider economic issues involved, and of the limited room for manœuvre in the solution of most economic problems. Their readiness to co-operate has also reflected trust in the intentions of the Government and the Central Planning Bureau, encouraged by, *inter alia*, the stringent price controls adopted by the authorities in the early postwar period and the subsequent readiness of the Government to influence price-fixing at need — by persuasion when possible, occasionally by the imposition of direct controls.

The question of how the responsibility for fixing money-wage levels should be shared between the parties most directly concerned and the Government has been a predominant theme in the discussions of wage policy since the end of the postwar recovery period. Until 1962, the operation of a wage policy was based on the Decree on Labour Relations of 1945, which established the Board of State Mediators to regulate labour-employer relations in the widest possible sense. All new collective labour contracts had to be submitted for approval to the Board, which could also, upon the request of the contracting parties, sanction the extension of the validity of agreements, reached between one or more employers and the trade unions, to other firms in the branch concerned. Furthermore, the Board was authorized — within a general framework set by the Minister of Social Affairs — to formulate directives which had to be complied with when collective labour contracts were concluded. It was stated in the decree (article 19) that the Board may take decisions only after consultation with the Foundation of

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[93] See N. Vanhove, *De Doelmatigheid van het Regionaal-Economisch Beleid in Nederland*, Rotterdam 1961, Chapter 3.

Labour, a private institution set up by the central organizations of entrepreneurs and workers to facilitate their co-operation.

Thus, the Government recognized the Foundation of Labour as an important agency for preparing and executing a wage policy. Nevertheless, through the Board of State Mediators, the Government has borne the final responsibility for determining the money-wage level. It was the Government which, after consultation with the Foundation of Labour, decided annually whether to increase the wage level and by how much; and the Board, by approving new wage contracts, put these decisions into effect.

The history of the experience of wage fixing during the postwar years indicates the changing emphasis placed on the various relevant objectives and also the difficulties encountered in pursuing an " incomes policy " of the type that is now felt to be essential in a number of countries (see above). In 1945 a minimum wage level was set which was to guarantee a minimum standard of living for all workers; and late in 1946 wages were frozen to prevent wage and price rises which might endanger exports, but the introduction of incentive wage systems was authorized as a means of raising labour productivity. After the 1949 devaluation, increases in the general level of money wages and of productivity were linked for the first time; and at the beginning of 1950, a 5 per cent wage increase was granted in anticipation of a rise in productivity, the Foundation of Labour undertaking to promote productivity-raising measures to justify this increase.

The liberalization of international trade in the first half of 1950, together with the Korean crisis in the second half, led to a deterioration of the terms of trade which tended to reduce real national income. The equilibrium in the balance of payments that had been achieved was again disrupted and, after discussions between the Government and the industrial organizations, it was decided that the wage level should be used as one of the instruments of a deflationary policy. To reduce consumers' expenditure, it was agreed that wage-earners be compensated for only part of the increase in prices, and real wages fell by 5 per cent in 1951; simultaneously measures were taken to curtail investment and government expenditure.

In January 1954, when the economic situation had improved, wage increases were conceded by the Government to compensate for the reduction in real wages which had occurred in 1951; and during 1954 and in the following years of rapid economic expansion, the trade unions directed their efforts mainly at keeping wage increases in step with the rise of national income. Thus the maintenance of the share of wages in national income became the main criterion of wage policy.

In 1956, a first attempt was made to differentiate increases in wages by reference to productivity increases in each branch of activity. The Government authorized wage increases of up to 6 per cent, making it clear that sectors with high rates of growth of labour productivity were expected to raise their wages by the maximum whereas others would limit themselves to lower rates of increase. However, the expected differentiation did not materialize and all branches, except agriculture, granted the full 6 per cent increase.

During the period of excess demand in 1956 and 1957, restraint of wage increases was again used as one of the instruments for achieving internal and external balance; and the discussion of the possibility of differential wage increases was resumed only after the recession of 1958. The workers', employers' and government representatives in the Social-Economic Council could not reach agreement on the question of whether such a system should be introduced; and in July 1959, the Government authorized the Board of State Mediators to permit the contracting parties to diverge from the criteria for wage increases that had been applied, if certain conditions were fulfilled. First, the costs of improving conditions of employment were not to be passed on as higher prices, but should be matched by increases in labour productivity in the branches or firms concerned within a period not exceeding the duration of the labour contracts. (The expected improvements in labour productivity were to be based on extrapolations of data on production per man in the recent past.) Secondly, if the increases in the wage level proposed in a certain branch exceeded the national average increase in productivity to such an extent that, in the opinion of the Board, they might have dangerous consequences for the wage structure and the labour market, the Board should invite the contracting parties to moderate their proposed improvements; if the contracting parties refused to follow the indications of the Board, the latter could impose a binding wage regulation. If a wage increase smaller than the increase in labour productivity was agreed, domestic prices of the goods and/or services in question would be lowered. Thirdly, in any period of strain in the labour market, different wage changes would be handled with great care, so as to co-ordinate wage developments in the different sectors and branches.

The attempts to develop a differentiated wage policy led to a greater degree of government intervention in wage fixing than had previously existed and hence to pressure from employers and workers for greater freedom in wage bargaining. Finally, in 1962, the Social-Economic Council published a report in which a new wage policy was proposed. It was suggested, first, that renewal of wage contracts should, in future, be based on semi-annual reports made by the Social-Economic Council, which would indicate the national average wage increase permissible in the near future; these reports should be based on a review of economic developments made by the Central Planning Bureau, and should include all relevant information for evaluating the consequences of the proposed changes in the wage level. Secondly, after the permissible average wage increase has been established, employers' and workers' associations affiliated to the central employers' organizations and trade unions should determine the appropriate increases for the various sectors and branches of the economy. On the basis of these sectoral percentages new collective contracts should be drawn up and submitted to the Foundation of Labour for approval — previously the task of the Board of State Mediators. Only in cases where the wage increases endangered the general targets of economic policy would the Government intervene.

The Government did not at first accept the proposals of the Social-Economic Council, since it considered that they excessively reduced the government influence on the wage level; but after strong pressure from the trade unions they were accepted subject to one amendment — if the Government and the Social-Economic Council do not reach agreement on the permissible average wage increase indicated in the semi-annual reports, and if this difference of opinion is " fundamental ", the Foundation of Labour will not be given authority to test the new wage contracts. Instead, the Board of State Mediators will be given this task, on the basis of a directive from the Government.

This new approach must be seen as one stage in the general development of wage policy — and it is certainly not the final one. It has been criticized on several grounds. It has been pointed out that the new system is being introduced in rather unfavourable circumstances: the labour market continues to be very tight and labour costs have recently risen considerably, reducing profit margins and weakening the competitive strength of industry on international markets. This situation makes it less easy to face the risks that are inseparable from the process of gaining experience with a new system. A minority group of employers' representatives in the Social-Economic Council has expressed the view that no individual industry can be expected to determine how far a wage increase on which the parties are agreed should nevertheless be moderated in the interests of achieving the general objectives of economic policy in a situation of labour scarcity and of a threatening general wage inflation. For, should it attempt to do this, it would run the risk of damaging its own interests by failing to attract additional labour and to improve labour-management relations. This minority suggested that the Government should establish — before actual negotiations commence — the limits within which the wage increase in any branch should be kept. It has also been pointed out that differentiation of wage increments as between branches will henceforth be pursued without any clear formulation of the criteria by which the acceptable extent of differentiation can be judged. The report of the Social-Economic Council considers some theoretical factors which determine relative wage levels but concludes that wage formation within individual branches cannot be bound by general rules.

The new system of wage settlements reduced government intervention considerably, and the authorities were therefore unable to prevent the 1964 " wage explosion " which resulted from cyclical strains on the labour market, arising from increases in investment, consumers' and export demand.

Conclusion

As previously indicated in this sub-section, the Government of the Netherlands has sought to exert a direct influence on the patterns of economic growth only to the minimum extent needed for achieving its major objective of maintaining full employment and general expansion and its subsidiary aims of stimulating the industrial development required to absorb the rapidly growing labour force and improving the regional pattern of industrialization seen as necessary to deal with localized employment problems. It has aimed to create conditions for steady growth on the basis of a relatively high level of investment in industry, and the avoidance of excess domestic demand or of a cost/price inflation which could impair the economy's international competitiveness. The preparation of the longer-term plans and national budgets has aimed at providing quantitative indications of the progress towards the major objectives that is considered feasible over the plan period, of the pattern of development expected to be consistent with that progress and of the impact of the most useful and practicable government policy measures. In addition, the preparation of the National Budget has been a means of improving the consistency of counter-cyclical measures to maintain the short-term economic balance. The unique element in the battery of measures used for pursuing the long-run aim of improving international competitiveness and rapid export expansion has been the particular wages policy developed in the Netherlands.

The latter policy was certainly successful in the earlier years, though it has to be remembered that the rapid growth of the labour force helped to maintain wage stability, not least by making it easier for expanding industries to recruit labour without having to draw it from other occupations. Prices rose less rapidly than in most other industrialized western European countries up to the mid-1950s. Thereafter, money wage rates and prices rose rapidly, partly because of the growing need to bring about changes not only in wage relatives but also in the price structure, which had become unduly distorted by the operation of partial price controls — on rents, for example. Nevertheless, one of the main aims of the wage and price stabilization policy — a rapid increase in exports — was achieved. Since 1948, the volume of exports has risen faster than in any other industrialized western European country; during the fifties the average annual rise in exports of 9.7 per cent (compared with a 4.7 per cent planned increase) greatly exceeded the average rise in gross national product of 5 per cent a year (compared with a planned 3.1 per cent).[94]

However, as was pointed out in an earlier study, the fact that the impact of short-term policy measures is quantified more precisely, and in more detail in the national budgets than in any other country, did not completely prevent the authorities from occasionally failing to forestall — or even from inadvertently intensifying — cyclical fluctuations.[95] On the other hand, greater experience has certainly resulted in an increasingly effective co-ordination of short-term policies; and over the postwar years as a whole, cyclical fluctuations in the Netherlands have been relatively moderate when viewed against the country's heavy dependence on external trade and the not inconsiderable problems of structural adaptation which it faced at the start of the period.

However, to countries which are now becoming increasingly conscious of the dangers to international stability, and loss to domestic expansion, of uncontrolled wage-cost inflation, it is the long experience of wage regulation that remains the most interesting element in Dutch policies.

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[94] See the *Bulletin*, Vol. 14, No. 2, p. 83. The international comparison of growth rates of exports presented there would change very little if a somewhat different period were chosen as the basis.

[95] See the SURVEY for 1959, Chapter VI, pp. 13-16.

(d) Sweden

As was stated in Chapter III, Swedish medium-term plans were, until recently, prepared by *ad hoc* commissions charged, in effect, with reporting on actual and likely future trends in the economy. The commissions had to make their own assessment of the detailed policy measures which would be desirable and feasible, given a knowledge of the broad objectives of government policy. A legitimate question is whether the resulting plan (or, more properly, forecast) — which is not binding on the Government or anyone else — can have an influence on economic developments. An answer to this question has been given in the following terms: " The influence of the long-term reports on economic decisions is partly due to the fact that people from all sectors have been involved in their construction. Hearings and discussions with representatives of the private and public sectors previous to publication of the report also play a part in forming opinions and may have an influence on the development of sector plans. After publication, the report is widely discussed in professional circles and commented on in the Press, and on the radio and television. The main thing is that in this way there is created an 'image' of the economic future which may inspire confidence and facilitate the mutual adjustment of various sectors of the economy. An industrial manager interviewed about the usefulness of the reports might reply 'the report gives me information about what goes on in other parts of the economy. The forecasts are and must be uncertain. But all enterprises have to forecast and plan for the future, and the report provides me with certain benchmarks for my own expectations and planning.' "[96] In this context it is relevant that the medium-term forecasts are to be regularly revised in the future and that forecasts for longer periods than the usual five years are to be produced.

Evidently it is virtually impossible to speak of policies specifically designed for medium-term plan implementation in Sweden. However, in the following paragraphs, the existing economic policy instruments have been reviewed in so far as they can be said to contribute to the achievement of longer-term objectives and/or are specific to Sweden alone or to only a few other countries.

National budgets

As in Norway and the Netherlands, the preparation of annual national budgets together with the fiscal budgets, and the statements they contain about the economic policies which ought to be pursued, have provided an important framework for actual government policy decisions. Against the background of the national budgets, discussions among government departments on the measures to be adopted take place in a more rational and consistent framework, and private decisions can be made with better knowledge of the trends of the economy than would otherwise exist. However, the national budgets are not explicitly related to medium-term plans (apart from such longer-term government commitments as defence programmes) and do not explicitly suggest policy measures designed to further the realization of the medium-term forecasts. But, in aiming at the careful co-ordination of policies to maintain short-term economic stability, they provide a sounder basis for rapid and balanced economic growth than might otherwise be achieved.

Since the budget year 1959/60, medium-term planning of government expenditure and revenues has been formalized in a three-year fiscal budget which is annexed to the Supplementary Finance Bill. The three-year budget is essentially informative, and Parliament is not requested to act upon it; but its usefulness lies in the assistance it gives for the evaluation of the implications for future annual budgets of existing and proposed new commitments. It is intended to have the period of the three-year budgets extended so as to facilitate the inclusion of their implications in the medium-term plans.

Labour market policy

As mentioned in Chapter II, the objectives of economic policy in Sweden have been to secure rapid and balanced economic growth and full employment. To the extent that imbalances, or threats of imbalances, are detected, the Government is prepared to take corrective action. To this end various global and selective instruments are available, of which some — the traditional budgetary, fiscal, monetary measures, etc. — will not be discussed here. The two major instruments which appear to be of special interest are the investment reserve system and labour market policy. Both are administered, together with other elements of stabilization policy, by the Labour Market Board.

The Swedish labour market administration comprises a strong central executive body, the (National) Labour Market Board, on top of a pyramid of twenty-four County Labour Boards and the Stockholm City Labour Board, and a number of local offices and local agents. The workers' and employers' organizations are strongly represented both in the central executive Board and in the local Boards, a fact which reflects both the importance which all groups attach to the task of labour market management and the weight given to the Board's recommendations on economic policy. Although the labour market administration was built up with the specific aim of solving employment problems, it has gradually developed into an important agency for general stabilization policy.

One group of services provided by this administration roughly corresponds to the functions of employment exchanges in other market economies in Europe; but it merits attention on account of the great efficiency of the service. This efficiency reflects not only good organization and close co-operation with the private and public sectors at the local level, but also the wide range of activities covered.[97] These include the rapid collection and distribution of statistics (at the local, county and national levels) of vacancies (open and filled), available labour supplies, etc.; the operation of employment exchanges; vocational guidance; vocational rehabilitation; the administration of certain allowances in connexion with the acceptance of a new job; and participation in adult vocational training. All these activities seek to match the labour supply as closely as possible to demand by promoting labour mobility in the widest sense of the word. They are important in periods of near-full employment, when there are scarcities of labour in some areas or sectors and unemployment or under-employment in others, and when there may still be a labour reserve to be mobilized; by contributing towards a reduction of the pressure for wage increases, they also facilitate cost and price stabilization.

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[96] I. Svennilson & R. Beckman, " Long-term Planning in Sweden ", *Skandinaviska Banken, Quarterly Review*, No. 3, 1963.

[97] That the Board's activities could be expanded were its financial resources still greater — and that this would be socially profitable —

Until recently, the labour market administration was responsible for licensing new buildings in branches that account for about half of all construction activity. This control, which could be quickly relaxed in order to stimulate activity—as it was in the winter of 1962/63 —has recently been abolished and will eventually be replaced by a new system of local employment planning. Under this system, all municipalities with more than 10,000 inhabitants will be required to draw up detailed five-year plans for dwelling construction, and advance planning of public building and construction will also be encouraged in order to have a reserve of projects to be started at short notice if the need arises.

The National Labour Market Board already presents proposals each year to the Government for a public investment reserve, covering both central government and state-supported projects. Appropriations for these projects are voted in a general " emergency budget "; and, if necessary, they can be drawn upon by the Government without further reference to Parliament in order to start relief works or to avoid any delay in placing government orders with industry. The public investment reserve includes only projects of such importance that they are expected to be financed in any case wholly or partly out of regular funds during the next few financial years. Furthermore, all these projects must have been prepared up to the point at which they can be started at not more than four months' notice.[98] In addition to the special government orders to industry, just mentioned, local relief works may also be started on the authorization of the National Labour Market Board; but these will normally be used as a weapon against seasonal unemployment.

The activities of the labour market administration seek to achieve a high and stable employment level and, therefore, are mainly concerned with smoothing short-term fluctuations. But the labour market administration also exercises a longer-term influence over the location of industry. Its assistance is available to all private and public enterprises in the form of technical information and advice on labour supplies and other relevant considerations. The National Labour Market Board can also influence a firm's choice of location more directly through its power to advocate or oppose the grant of a state guarantee for any credit required to finance the related investment. The Board gives advice and help to municipalities seeking to attract industries and to develop other economic activities in their areas, and public authorities are assisted in the choice of sites for schools, hospitals, etc. As a basis for this type of task, the Board makes regional surveys which include information on, and forecasts of, population and employment. Firms often contact the local labour boards on their own initiative; but the labour market administration also approaches individual firms whenever it hears that a firm is preparing plans for a new location, and the local offices of the labour market administration are obliged to report all developments, or plans for development, in their areas.

The investment funds

Another method of combating business fluctuations in the industrial and forestry sectors has been provided by the investment fund system. Enterprises operating in these sectors may, if they choose, make tax deductions for investment reserves up to a limit at present equal to 40 per cent of taxable profits, provided that 46 per cent of such allocations (corresponding roughly to the amount which would have been paid in tax if no deduction had been allowed) are deposited in a special non-interest-bearing account in the National Bank. The full amount of the investment reserve is controlled by the Labour Market Board and is released in accordance with the provisions of the relevant legislation.

Authorization to use the investment reserve during a certain period may be given by the Labour Market Board to all holders of reserves, to a certain group of enterprises, or even to individual enterprises; and, in principle, the Board may also authorize the enterprises to use the reserve only for specified purposes. If use of an investment reserve is authorized for purposes specified in the legislation, an additional deduction from tax liability of 10 per cent of the amount so used is granted. The Labour Market Board's authorization is required before an investment reserve can be used during the first five years of its existence; but an enterprise may use, without permission, up to 30 per cent of any reserve held for a longer period. The initiative for utilization of investment reserves may be taken not only by the Board or the enterprise but also by the interested municipality or industrial association. The Board keeps a register of the amounts allocated to investment reserves and can consult the enterprises concerned to ensure that their use is properly planned.

Although authorizations to use the investment reserves will normally be given for rather short periods, the Government can permit, on application, the use of reserves for a particular project over a longer period of time, and can even authorize in advance the use of future reserves. In effect the latter is an *ad hoc* tax allowance granted for specific purposes.

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is argued by G. Rehn in his paper, *The Case for Expansion of Labour Market Policy as an Instrument of Economic Progress* (Stockholm, 10 March 1961), presented at the Meeting of Senior Economic Advisers to ECE Governments, Geneva, March 1961.

[98] However, it appears that during 1958 and 1959 the preparedness of such projects was inadequate, whereas the private investment plans drawn up in connexion with the investment fund system (see below) were fairly well prepared.

In order to have a direct effect on liquidity during 1960 and 1961, additional tax concessions were extended to enterprises that deposited the whole (instead of only 46 per cent) of a blocked reserve at the National Bank; this proved to be a valuable backing for the restrictive credit policy.

The following indications of the quantitative importance of the scheme and of its flexibility have recently been given. " In 1962 . . . deposits in reserve investment funds under the control of the National Employment Service amounted to about 2,400 million crowns. During the 1958-1959 recession authorization was granted to use more than 1,000 million crowns [almost 1 per cent of gross national product], mainly for housing construction but also for roads, forestry, machinery and equipment. To meet the threat of unemployment in the building industry during the winter of 1962/63, the National Employment Service decided, on 11 May 1962, to permit undertakings to draw on their investment funds for construction projects, provided that these were started before 1 November 1962 and that expenditures involved were committed not earlier than 1 July 1962 and not later than 30 April 1963. "[99] It was estimated that about 600 million crowns could be withdrawn and a sample survey in November 1962 indicated that 9,000 men were already employed on the related building projects.[100]

The main significance of the investment reserve system is that it provides a ready source of finance for investment which the enterprise is very likely to be ready to use whenever permitted, even in times of slack demand. But, in addition, it provides a basis for contacts between the private sector and the labour market administration at all levels. This has been important for gathering and disseminating information and for establishing the necessary degree of co-operation. The fact that co-operation in this field has proved to be of mutual interest to the groups concerned has also improved the effectiveness of the other activities of the labour market administration.

The labour market administration can be described as a nation-wide instrument for promoting one of the major objectives of Swedish economic policy, a very high and stable employment level. The measures it has taken are evidently selective in that the regional pattern of development has been influenced. There is also the possibility that the branchwise pattern of growth can also be influenced, though this has not yet been the case to any considerable extent. In authorizing the use of investment funds, the Board has avoided " discrimination between various firms, trades or geographical regions ",[101] because " non-discrimination has been regarded as necessary to maintain confidence in the system ". But it can be safely stated that the labour market administration, with all the powers conferred upon it, is an important instrument for the implementation of economic policy in a mixed economy such as Sweden's.

(e) Belgium

The basic conceptions of planning techniques and the method of plan implementation now being developed in Belgium resemble rather closely those evolved in France. The methods of translating plan objectives into reality are, or are expected to become: first, directives (in the case of the public sector); second, voluntary co-operation (in the case of the private sector), which it is hoped will result spontaneously from the participation of representatives of private enterprise in plan preparation; and, finally, policy instruments for reinforcing adherence to plan objectives. In France the machinery for plan implementation and the instruments used have been gradually improved and adapted in the light of the experience gained over sixteen years; and the understanding of, and faith in, planning have steadily increased, both within the administration and in much of the private sector. In contrast, planning in Belgium is still in its early stages: " limitations are inherent in a first effort of planning attempted in an individualistic milieu which, even if it is today receptive to these ideas, has never sought profound general directives for its action " [102] in the machinery of state.

Machinery for plan implementation

The machinery established for plan-building in Belgium has been described in Chapter III. The *Bureau de Programmation* collaborates closely with various government departments, reviewing plan implementation and making proposals for policy measures. Each department examines plan execution in its own fields and the information collected goes to the *Bureau* which, in turn, informs the Government of deviations from plan objectives and of any difficulties which may arise.[103] The *Comité national de l'Expansion économique* provides a meeting-ground for the ministers concerned with economic and social questions and representatives of the employers', workers', farmers' and professional organizations. It discusses the broad lines of economic policy and, after bringing together the various economic groups concerned with plan preparation, also aims at " permitting a better harmonization of the decisions and attitudes of these groups with the objectives pursued by the Government and at bringing about a better understanding of economic and social policy measures." [104] The *Comité ministériel de Coordination économique et sociale* which, together with its three sub-committees,[105] participates in the various phases of plan preparation and approves the plan, is also advised of the *Bureau's* views on the proposed policy measures.

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[99] B. Olsson, Director General of the National Labour Market Board, " Employment Policy in Sweden ", *International Labour Review*, Geneva, May 1963, p. 427.

[100] *Ibid.*

[101] See National Labour Market Board, *Report on Swedish Labour Market Policy*, p. 27, Stockholm, February 1963 (roneoed document), from which most of the information given above has been taken.

[102] A. Kervyn de Lettenhove, Secretary-General of the Bureau de Programmation, " La Programmation Belge ", *Reflets et Perspectives de la Vie économique*, March 1963, p. 80.

[103] It should be remembered that this is a description of a system which, as yet, exists more in principle than in practice.

[104] Statement submitted to the secretariat by the *Bureau de Programmation.*

[105] Finance and Budget; Economic Expansion and Regional Policy; Public Investments and Transport.

In order to improve both plan preparation and control over plan execution, a revision of national accounts statistics is being carried out by the National Institute of Statistics. The publication of two annual editions of the National Budget[106] is intended to help economic policy to smooth out cyclical fluctuations, and to facilitate the integration of budgetary and other economic policies into the plan and the modification of policies for plan implementation if deviations from the foreseen course occur; alternatively, it helps to ensure the rational modification of objectives and targets.

For the public sector, the plan, once approved by the Government and voted by Parliament, is intended to be mandatory — in respect both of investment and other targets and of policies for inducing other sectors to act in accordance with the plan. The public sector is relatively small in Belgium[107] but, within it, the central Government exercises a considerable degree of control over the expenditure of public enterprises. Moreover, it exerts financial control over something greater than one-half of all housing construction, and probably close to one-fifth of private sector investment is financed by public credit institutions.[108] Even so, the proportion of investment directly or indirectly financed from public or publicly controlled sources is substantially smaller than in France; and, although efforts are being made to co-ordinate public sector activities within the framework of plan targets, the existing machinery and attitudes are still considered far from adequate for this purpose. For instance, " a gradual end must be put to antagonisms, as traditional as they are sterile, between the various departments and permanent organs entrusted, within the administration itself, with responsibility not only for day-to-day co-ordination, but also for the confrontation of projects and programmes."[109]

As already pointed out, there is no formal undertaking on the part of representatives of the private sector to observe the plan. The industrial associations and other similar bodies are, however, committed in a general way to the sector targets which they have helped to formulate, and thus to support government action for plan execution, to disseminate understanding of plan objectives among the members of their organizations and to encourage them to conform to these objectives. " It is impossible today to know whether the voluntary co-operation of the private sector and the limited means of action of which the state disposes will constitute a sufficient basis for plan implementation."[110] But it seems that contact is already being maintained between representatives of industrial branches who participated in the elaboration of the plan and the *Bureau de Programmation*. Moreover, the *Bureau* is taking the initiative in raising certain problems in key sectors, both with the entrepreneurs and with the responsible units of the government administration.

Policy instruments

Policy instruments for plan implementation are not specified in the plan document; and it is the official view that, for the type of planning adopted in Belgium, no new powers need to be conferred upon the Government. While it is conceded that the financial machinery needs to be improved, reliance will be placed mainly on existing instruments and new ones will be devised only if the former prove to be inadequate.

Various methods of encouraging investment existed before the adoption of a plan and these have been gradually reinforced. They include publicly guaranteed loans, rebates on interest paid and the creation of a new institution, the *Société nationale d'investissement* (disposing, so far, of rather limited funds), which participates in the financing of new industries and of new enterprises in existing ones. In the past such aid has been used to stimulate investment in general, without reference to any explicitly formulated criteria. Recently, however, it has been offered on a more selective basis: assistance has been made to depend on whether the demand for the product is expanding rapidly; on whether the project offers an opportunity of profitable specialization within the Common Market; and on the dynamic effects of the project on other enterprises or sectors. Applications for financial aid are submitted to the Ministry of Economic Affairs. The *Bureau de Programmation* is kept informed of the applications and may comment on those it considers particularly important, but the planning authority's intervention is not as automatic and institutionalized as in France.

A large number of publicly controlled credit institutions, specializing in the supply of long-term credit, exist in Belgium, among them the *Société nationale de Crédit à l'Industrie*, which finances industrial investment. These could be used as instruments for influencing the pattern of investment but so far their lending operations have hardly been geared to plan execution. The report of a commission, established to study the existing financial mechanism and means of co-ordinating financial policies with the plan, published in March 1962, drew attention to some of the financing problems raised by the large increase in investment called for under the plan and suggested possible solutions for some of them.[111] The formulation of instruments for financial planning — essentially ensuring a supply of credit, appropriate in quantity and form, to the plan targets — is advocated in general terms. More precisely, it is suggested that institutional changes are needed to end the present excessive compartmentalism of the collection and the distribution of investment finance.[112] It has also been proposed that a Financial Council be established in which both public and private lending institutions would be represented, and which would have the power to make policy recommendations to both groups. At the time of writing, however, no action had yet been taken on these proposals.

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[106] In the spring, giving the outcome of the previous year's budget together with a revision of the budget for the current year and, in the autumn, a final revision for the current year with a forecast for the following year.

[107] As noted above, its share in gross national expenditure was 14 per cent and in gross fixed investment 20 per cent in 1957 — of which one-half was accounted for by public enterprises.

[108] But, as is shown below, this control is only just beginning to be used in the interest of plan implementation.

[109] Speech by the Prime Minister delivered on 21 February 1962 before the Commission spéciale du Sénat *(Programme quadriennal d'Expansion économique 1962-1965)*, reproduced in the annex to the Commission's report.

[110] A. Kervyn de Lettenhove, *op. cit.*, p. 89.

[111] *Commission gouvernementale pour l'Etude des Problèmes de Financement de l'Expansion économique: Rapport*, Brussels, 31 March 1962. The Commission is usually referred to as the de Voghel Commission, after the name of its Chairman, Vice-Governor of the National Bank of Belgium.

In the fiscal field, provisions already exist for stimulating private investment by exempting from income-tax until 1965 four-fifths of any profits re-invested. There is, however, no possibility of selective fiscal incentives being used, since there is a firmly rooted principle that " all citizens are equal before taxation " and a strong opposition to any discriminatory use of fiscal measures.

Financial aid for approved regional development projects was available before the institution of the plan, but an overall regional development policy, within the framework of the national plan, is still being formulated. Regional development policy has so far consisted of an empirical selection of development regions within which preferential credits are granted for infra-structure investment and/or the establishment of new private enterprises. Credits are provided in the public-works budget for the establishment of industrial sites, and other measures to encourage the desired regional location of new plants include interest rebates and exemption from land tax. In future, nuclei are to be chosen within the development regions in order to avoid the scattering of new ventures and the costly dispersal of infrastructure investment. The general objectives of regional policy are stated to be: the optimal distribution of employment throughout the country; a more even distribution of per capita income; a reduction of structural unemployment; and the separation of residential areas from the large industrial centres. A Regional Development Committee was set up in 1961 within the *Bureau de Programmation* to decide upon rational criteria for the selection of development nuclei within the development areas and it is proposed to introduce legislation for the creation of *Sociétés de Développement régional.*

Planning and trade dependence

In a small country as dependent on foreign trade as Belgium, plan implementation will depend not only on effective domestic policies but also, to a large extent, on factors beyond the country's control. Well over one-third of Belgium's gross national product is exported and the ratio is very substantially higher for some industries. The plan foresees a speeding up of the process of specialization. Thus, during the plan period, the increase in the volume of exports is expected to absorb three-quarters of the increment of production while more than three-quarters of the increase in the volume of domestic expenditure will be covered by imports. More than half of Belgium's trade is with the EEC countries, and this proportion is rising rapidly. Thus, whether plan objectives can be achieved depends to a significant extent on whether Belgium's main trading partners succeed in avoiding cyclical fluctuations and in achieving high rates of economic growth. It will also depend on Belgium's competitive position within EEC which, in turn, will be determined by the success of domestic policies for checking inflationary tendencies.

In this respect, the problems of Belgium and of the Netherlands are very similar (see sub-section (*c*) above); and it is against this background that the formulation of an incomes policy has been recognized as an indispensable instrument of plan implementation. It is hoped that by spreading better knowledge of the social objectives of the plan and by providing better statistics which permit the development of money incomes to be related to the general plan framework, " calm and thorough discussion of the whole question with the major employers" and workers' organizations will guarantee the successful implementation of the programme in a spirit of unreserved co-operation ".[113] The *Bureau de Programmation* is seeking to improve the quantity and quality of the available data and to establish principles on which an incomes policy, aiming both at an improvement of social conditions and at the maintenance of financial equilibrium, can be based.

To sum up, in laying down the foundations of a system of economic planning, the Belgian authorities have clearly been influenced by French experience. An important element in plan implementation is clearly intended to be the contacts of the *Bureau de Programmation* with other units of the administration and with the private sector. It is hoped that this will bring about both a better co-ordination of public sector activities in the light of plan targets and an orientation of private investment in the desired direction. Within the public sector, there is a need for better inter-agency co-operation in the interest of plan implementation. The private sector can obtain only limited assistance from the authorities, compared with that available in France, and its allocation has, so far, been linked far less closely to plan considerations. Nevertheless, the " dialogue " between the planning authorities and private industry, which is such an essential feature of planning in market economies, has begun; and, if the proposals contained in the report of the Financial Commission, referred to above, for strengthening central control over investment finance are finally adopted, at least one powerful instrument will be available which can be used to influence private investment decisions in the light of the plan targets. The apparent intention of the Belgian authorities to attempt to exert such influence is itself an interesting feature of Belgian planning aspirations. It contrasts, for example, with the view of the Dutch authorities that micro-economic decisions in an economy heavily dependent on external trade are best left, so far as possible, to the influence of market forces. However, the apparent contrast may well be explained by the fact that in Belgium the plan is seen primarily as a "machine for growth" — to speed up rates of investment and of overall economic expansion which have been among the lowest recorded in industrial western Europe during the 1950s. To achieve this, as distinct from the need simply to preserve conditions which are suitable for the maintenance of the higher investment ratios and growth rates already established in the Netherlands, may well require more detailed intervention on the part of the planning authority.

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[112] For example, the *Crédit communal de Belgique* collected savings in excess of the investment of the local authorities authorized by the Government, the financing of which is the main purpose of this institution. There has already been a tendency for this institution to finance central authorities' projects but, as yet, there is no possibility of it financing industrial investment.

[113] Speech of the Prime Minister (see footnote 109).

(f) The United Kingdom

During the 1950s, the British authorities have been struggling with the dilemma posed by economic objectives — full employment, economic growth, balance-of-payments equilibrium and (partly a condition of the last) a reasonable degree of internal price stability — which appeared to be irreconcilable by the use of the policy instruments applicable within the actual political and institutional framework. A solution is now being sought through the medium of an economic plan. The National Economic Development Council (described in Chapter III) has produced the outline of such a plan, the major objective of which is to induce a much higher rate of economic growth in the future (4 per cent a year over the five years 1962-1966) than the 2½ per cent a year recorded during the decade of the nineteen-fifties. It has also proposed certain policy changes required for the plan's implementation.[114] It is important to note that, though the creation of the NEDC may have been influenced by French planning, the present machinery of planning in the United Kingdom bears little resemblance to that prevailing in France. From the description in Chapter III of the status and functions of the NEDC, it is apparent that this body is a " new kind of somewhat ' amphibious ' organization, half inside and half outside the machinery of government "; yet it " has the potentiality of becoming an effective organization for economic planning ".[115]

It is convenient to examine the prospects for plan implementation in the United Kingdom first from the point of view of the institutions that exist for carrying out any policy decisions and, secondly, by a review of the new policy proposals.

Instruments for plan implementation

On a purely institutional level, it is hoped that the participation of industrialists and trade unions in the plan-building process (through the NEDC) will help to ensure the acceptance — and thereby perhaps also the attainment — of the targets. However, responsibility for adopting and implementing the NEDC programme rests with the Government, which would have to reorientate its economic policies in the light of the plan's needs; to an important extent it rests also with the workers' and employers' organizations, whose co-operation is evidently essential to the success of any policy designed to check the tendency to wage-cost inflation in conditions of strong demand for labour. Indeed, success in this field is seen by the NEDC as one of the conditions for ensuring the growth of exports necessary for realization of the target for overall economic expansion. In sum, the NEDC may propose, and perhaps initiate, action, but execution remains in the hands of the normal government machine. Its influence is thus only indirect.[116]

The instruments for influencing the development of the economy available to a British Government are fairly comprehensive. The public sector (including the public corporations) in the United Kingdom is among the largest in western Europe (in terms of its share in total national expenditure).[117] In the context of longer-term planning, the central Government has considerable powers of control over the development of social expenditures (both current and capital), whether these are undertaken by its own agencies or by local authorities. Legislation has conferred powers on the appropriate ministers that enable them to influence decisively the investment plans and pricing policies of the nationalized industries as well as generally to intervene " on matters affecting the national interest "; and the public enterprise sector covers virtually the whole of the coal, electricity, gas, railways, air and inland water transport industries and part of the road transport branch, as well as postal and telecommunications services. To ensure the effective co-ordination of all these expenditure plans within the framework of a national medium-term plan is essentially an administrative problem.[118] In this connexion, an interesting innovation was the publication in 1963 of forward-looking estimates, for a period of five years, for public expenditure in different sectors on both current and capital account. These were related to the 4 per cent growth target for national product and to prospective public revenue, from which it was concluded that there was unlikely to be much scope for reduction in the burden of taxation.[119] Furthermore, these estimates did not allow for possible expenditure on certain programmes (e.g. roads, regional development and urban planning) on which firm policy decisions were still pending.

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[114] National Economic Development Council, *Growth of the United Kingdom Economy to 1966*; and *Conditions Favourable to Faster Growth*, HMSO, 1963. The latter document sets out the policy proposals and is the one to which references are made below.

The present text was completed before the changes made in planning machinery, following the change of government in October 1964, took place and hence before the decision to start work on a new plan.

[115] C. T. Saunders, " The Development and Problems of Economic Planning in Great Britain ", *Weltwirtschaftliches Archiv*, Band 92, Heft 1, 1964, p. 69.

[116] " If NEDC is to have an impact either on government policy or on industry, it can do so only by continuous pressure on both — and on public opinion. NEDC, in effect, can exercise initiative only by acting as a kind of ' pressure group '." (Saunders, *op. cit.*, p. 71.)

[117] Investment by the public sector (including dwellings) accounted for 42 per cent of total gross fixed capital formation in 1962 (public authorities 22 per cent, public corporations 20 per cent) and for 7 per cent of gross domestic product (at market prices): public consumption accounted for 17 per cent of gross domestic product (defence 6½ per cent).

[118] The principles governing public expenditure were the subject of a report by a special group appointed by the Chancellor of the Exchequer *(Control of Public Expenditure*, Cmnd. 1432, HMSO, July 1961). It was later decided to fix target rates of return for each of the nationalized industries, after reviewing with them their economic and financial bases and clarifying their financial responsibilities " in order to establish a firmer foundation for their future operations ". *(The Financial and Economic Obligations of the Nationalised Industries*, Cmnd. 1337, HMSO, April 1961.)

[119] *Public Expenditure in 1963/64 and 1967/68* (Cmnd. 2235, HMSO, December 1963).

Some influence over the development of private industry can be exerted through the monetary and credit mechanism. The Government has wide powers to influence, and to give directives to, the banking system through the intermediary of the (nationalized) Bank of England in such a way as to affect not only the total volume of credit available and the terms on which it is offered, but also the purposes for which credit is granted. This power to influence the distribution of investment finance has been exercised in the past only to the extent of giving rather general indications of priorities to be observed — for example, that investment in production for export should be favoured or that finance for private housebuilding should be restricted — but the legal basis for a more discriminating influence, if such were considered desirable, exists. Similarly, control of capital issues, suspended in 1959, could again be exercised if desired, under legislation still in force,[120] and exercised in a manner discriminating as much among branches of activity or among regions as the Government might consider justifiable.[121]

Measures available to encourage the location of industry in development regions include the offer of government-built factories at low rents, loans interest-free for a period of years, and grants to assist factory-building and other fixed capital expenditure or to meet special initial expenses.[122] Moreover, all industrial building projects exceeding 5,000 square feet require the approval of the Board of Trade, which may try to steer the firm concerned into expansion in a development area.

Thus the measures available to influence the pattern of private investment — with the exception of some of those for influencing location — depend on the existence of generally strong demand for investment, for which credit can then be made available on a selective basis. But in the United Kingdom, as in most other industrialized countries of western Europe, the Government has, in fact, seldom wished to exercise much influence over the branch-wise pattern of investment, preferring to try to create conditions for steady expansion and to leave the pattern to determination by the market.

The attempts of successive British Governments to maintain such conditions have not, however, been very successful. The measures available for regulating the pressure of aggregate demand in the United Kingdom comprise the usual range of budgetary and monetary instruments — government expenditures, direct and indirect taxes and subsidies, interest rate policy and the more direct means of controlling the volume of bank credit already mentioned. They include also a variety of additional means of influencing the distribution of total expenditure between consumption and investment (investment allowances, regulation of hire-purchase terms, even the legal possibility of varying social insurance contributions). However, the development of the British economy since the early fifties has been characterized by the alternation of short bursts of expansion with setbacks resulting in large part from restraining action by the Government, motivated by balance-of-payments difficulties and/or fears of domestic cost and price inflation. These restraining measures have invariably affected investment, even on the occasions when it had been hoped to achieve the desired effects on the price level and the balance of payments mainly by restraint of consumption or by reducing excess demand without actually checking the growth of output. The effects of measures intended to preserve short-term internal stability have sometimes been excessive as a result of miscalculations by the authorities; but a more important aspect of the difficulties of the British economy has been the failure so far to devise measures which will make it unnecessary to impose frequent checks on economic growth in order to reduce demand for imports or in the hope of stimulating exports (directly by reducing the pressure of domestic demand and indirectly by checking the rise in wage-costs and domestic prices in response to demand pressures).[123]

The various elements in any solution of the problem are clearly interconnected. Measures to restrain the rise of money wages in relation to the growth of productivity could help to promote faster export expansion; effective measures to this end are likely to be the easier to devise, the more rapid is the growth of productivity; rapid productivity growth seems difficult to induce without a steady rise of demand and output; a higher rate of investment would be conducive to more rapid growth of productivity and total output in conditions of expanding demand; it, too, could be more readily accommodated in a rapidly expanding economy, where consumption can continue to rise even as a larger share of resources is diverted to investment, than in a slowly growing one; but steady expansion requires measures to induce faster export growth — and so on.

Policies recommended by the NEDC

As already mentioned, the plan formulated by the NEDC foresees a 4 per cent a year rise in gross domestic product from 1961 to 1966, which will require a 5.3 per cent annual increase in investment and annual increases of 5 per cent in exports and 4 per cent in imports, leaving scope for annual increases of 3½ per cent in both personal and public consumption.[124] A number of specific measures are advocated to promote this acceleration of economic growth and the change in the pattern of national expenditure which it is expected to require.

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[120] The Borrowing (Control and Guarantees) Act, 1946.

[121] For a brief review of the use of monetary policy in this connexion in the United Kingdom, see *Eight European Central Banks*, pp. 109-119 (published under the auspices of the Bank for International Settlements, London 1963).

[122] This assistance is available both for firms moving into development districts and to established firms which are willing to expand their activities. For a full description of regional development policy in the United Kingdom, see M. F. W. Hemming, " The Regional Problem ", *National Institute Economic Review*, August 1963.

[123] For a discussion of British experience during the 1950s, see the SURVEY for 1961, Part 2, Chapter VI, section 4.

[124] After a very slow start during 1962, growth in 1963 was running ahead of the target rate. However, in a report reviewing progress since the programme was drawn up, the NEDC feared that on the one hand exports were not rising as quickly as planned and, on the other, imports would grow faster than had been anticipated. The estimate for imports was therefore raised to 4.7 per cent. (*The Growth of the Economy*, HMSO, March 1964.)

Many of these are aimed at increasing the quantity and improving the quality of factor supplies and at solving structural problems. Increased expenditure on, and reforms of the content of, education and training schemes are recommended to improve the quality of the labour force and of industrial management, as are measures to improve occupational and geographical mobility. The latter include better retraining facilities, special subsidies for building by local authorities to house transferred workers, increases in the present financial assistance provided to unemployed workers moving to " growth " areas, arrangements to ensure transferability of pension rights of managerial and technical staff, increased inducements (both financial and in the form of better information services) for firms to locate plants in regions of labour surplus,[125] the establishment of " growth points " within each region to which special effort would be made to attract industry,[126] and increased infrastructure investment in development regions.

The changes recommended for consideration as probably conducive to long-term growth include the substitution of a value-added tax for the present purchase tax (a sales tax levied at wholesale, and currently at three different rates, according to product) and/or the present tax on company profits.[127] A change from the present flat-rate employer's social security contribution to a percentage tax on wages and salaries is suggested as an incentive to economize labour.

A number of the NEDC's suggestions have clear relevance to the problem of the interim period in which the step-up from slow to more rapid expansion, and from a low to a higher rate of investment, has to be made. These include the possible temporary use of export subsidies or quantitative import restrictions and of restraints on investment overseas to protect the balance of payments during the phase of accelerating growth (provided that these could be used by international agreement and without danger of retaliation) and assurance to industry that investment allowances (which reduce taxation of profits used for this purpose) will not be lowered without two to three years' notice.

Consideration of the Swedish investment reserve scheme (and of an alternative intended to have similar effect) is recommended as a means of short-term regulation of investment; but no other innovations in the sphere of measures for short-term regulation of demand are suggested. The NEDC clearly favours, for both social and economic reasons, the operation of the economy at a higher level of employment — in other words a greater intensity of demand pressure — during the next few years than was experienced while the programme was being drawn up. It sees as an essential condition " that ways should be found of limiting the rise in [money] incomes associated with a given level of unemployment to a rate lower than that which would occur on the basis of past experience "; the rise in money incomes, associated with the planned 3½ per cent increase in real income per capita, should be " substantially less rapid than the past average of 5-6 per cent a year ".[128] It is noted that measures to lessen regional disparities in unemployment and increase labour mobility would help in this context; but that " implementation of an agreement on a general price and income objective will create difficult problems for management and trade unions ".[129] No recommendation is made on the institutional arrangements by means of which such an agreement might be, first, reached and, second, implemented. Attempts have been made within the NEDC to reach agreement between employers' and labour representatives on a national incomes policy, but so far without any success. Moreover, the trade unions have declined to co-operate with the National Incomes Commission, established in 1962, and the immediate prospects for a solution of this key problem in creating conditions for sustained rapid expansion of the British economy do not appear favourable.

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[125] One new suggestion in this field is that consideration might be given to a subsidy to labour costs for firms establishing enterprises in " labour-surplus " regions matched by a levy on employment in new enterprises set up in congested regions.

[126] Similar to the concept of " nuclei " in France, the Netherlands and Belgium.

[127] See sub-section (*a*) above. However, the idea of a value-added tax was subsequently rejected by a committee, especially appointed to consider the question, which concluded that the present purchase tax afforded a " more logical, efficient and economic means " of consumer taxation and that the substitution of a value-added tax for the profits tax would raise the cost of living and add to the difficulties of working out an incomes policy. The Government has accepted the committee's report. (*Report of the Committee on Turnover Taxation*, Cmnd. 2300, HMSO, March 1964.)

[128] NEDC, *Conditions Favourable to Faster Growth*, HMSO, 1963, pp. 46 and 51.

[129] *Ibid.*, p. 54.

3. CONCLUSIONS

As has already been pointed out in section 1, the adequacy of the instruments of plan implementation available in the industrialized western European countries under review in this chapter and of the way in which they have been used must be judged first in relation to the premises and objectives in the countries in question. (See Chapter II.) At a second stage it may be useful to consider whether the methods applied in one country could be successfully adapted to the conditions in, and objectives of, another.

When the measures to establish an expansionist atmosphere to encourage the co-operation of the private sector and to increase the efficiency of public sector operations in the pursuit of given plan objectives and targets are considered in the light of postwar experience, the following requirements must be stressed. First, there is a need for continuity in government policy — with regard both to its broad objectives and to its views on the acceptable methods of attaining them. Second, the closest possible reconciliation of short-term measures for maintaining internal and external stability with medium-term plan targets must be assured. Third, the activity and policies of the public sector must be efficiently co-ordinated. Fourth, those responsible for economic decisions in the private sector should appreciate the aims and targets of medium-term planning and of the rationale of the measures undertaken by the Government at any time to influence the pace and pattern of development. The relative importance of these various requirements depends on the particular approach towards planning and policy-making adopted in a given country (as pointed out in Chapter III) and also on whether given policy instruments are intended primarily to serve the implementation of annual or medium-term plans.

Looking at the first of these policy requirements, it can be seen that there has been a certain continuity of policy in France during the postwar period; despite frequent changes of government this was ensured by the officials of the *Commissariat général au Plan* and of the economic ministries co-operating with them. In the Netherlands, Norway and Sweden there has been a similar continuity, at the political as well as the official level. In France, expansion in the short run has in fact been accorded priority over other objectives during most of the period, though frequently this was not so much the result of a successful co-ordination of short-term policies as an inability to apply effectively to consumption the measures of restraint which the Government considered desirable in the interests of price stabilization and/or balance-of-payments equilibrium. In the United Kingdom, on the other hand, the " stop-and-go " nature of short-term policies has been so marked as to be clearly of greater practical importance than the long-run growth objectives.

As a method of ensuring that long-run aims are borne in mind by those responsible for formulating and implementing short-term policies and that the co-ordination of the various public sector activities in the short run is improved, the preparation of annual National Budgets — a long-standing practice in the Netherlands, Norway and Sweden and a more recent one in France — seems useful. Clearly, the publication of these budgets can help to disseminate information on the Government's assessment of the economy's short-run prospects and improve the understanding of the reasons for any changes in budgetary, fiscal, monetary and credit policies. In this context, the joint elaboration of annual fiscal budgets and National Budgets is also of importance.

Efforts have been made in France and Norway to ensure a better co-ordination of investment and other expenditures by the public sector in the light of both the short-term need to maintain a balance in the economy and of medium-term plan considerations. The publication of forward-looking estimates for public expenditure over a number of years in the United Kingdom and the establishment of medium-term programmes for government expenditure in Sweden, both linked to the growth target for national product (although not directly to the planning process itself), is also a step in the right direction. Closer links seem to be needed in most countries between the financial provision for a public investment project and the technical and administrative preparations required for its execution. To ensure central control over investment finance for the public sector, and thus over the nature and timing of its outlays, the establishment of a fund on the pattern of the French *Fonds de Développement économique et social*, centralizing all public investment decisions and exercising central financial control over them, can be a useful tool; but alternative means of ensuring control of the investment outlays of the public sector are available in most other countries, even if, as yet, they are not always used effectively.

In the case of methods used for mobilizing private sector co-operation in plan implementation, consultations with the private sector play an important role in the Dutch planning system through the promotion of an understanding and acceptance of government policies on the part of management and labour. But the process of plan preparation and implementation in France, involving continuous contact and consultation between the planning authorities and a wide circle of industrialists and others [130] and the support by a plan-oriented mechanism of financial controls, constitutes the most far-reaching " instrument " yet devised for encouraging such co-operation. These methods are being imitated to some extent in the Belgian planning system, though the direct inducements offered to individual French entrepreneurs to co-operate with the planning authorities have as yet found no place.

There can be no doubt that close co-operation with industry — in particular with the few large firms that account for certain key industrial branches — both in plan preparation and in plan implementation, carries with it the danger of the adoption of restrictive practices by the firms concerned. This danger can, however, be minimized or even obviated by public control of such practices and through a liberal foreign trade policy. Thus, while in the absence of a policy of international plan co-ordination the progressive freeing of international trade introduces on the one hand an element of uncertainty into national planning, it does provide, on the other hand, a safeguard against undesirable distortions of the market mechanism.[131]

The measures used for short-term plan implementation aim mainly at maintaining a high level of activity by influencing resource allocation among the broad categories of output and demand. In this context, incomes policies and labour market policies are also of importance, though it should be borne in mind that all relevant short-term instruments are also relevant to medium-term planning. In the case of measures for influencing the distribution of national expenditure between private consumption, public consumption and investment, and for maintaining the short-term internal and external balance of the economy, all the countries considered in this section possess a considerable battery of fiscal, credit and monetary weapons — those for credit control being particularly complete in Norway and France. However, the flexibility with which fiscal measures, in particular, can be used, is limited by a number of factors: considerations of social justice, for example, limit the flexibility of direct or indirect taxes levied on personal incomes and consumption, and of other measures affecting incomes. The use of such measures as wage and price controls or physical limitation on the supplies of certain consumers' goods (including import controls) is limited in most countries by the political and other " premises " of policy. Among measures which seek to vary the timing of private investment outlays without weakening the incentive to invest, the Swedish investment-reserve system is particularly interesting; it is to be used in Norway and has been suggested in the United Kingdom. The machinery for channelling savings towards productive investment varies greatly from country to country but now seems generally adequate.

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[130] See Chapter III and sub-section (*a*) of this chapter.

[131] See C. T. Saunders, " The Development and Problems of Economic Planning in Great Britain ", *Weltwirtschaftliches Archiv*, Band 92, Heft 1, 1964.

An unsolved problem in all countries is that of devising means of regulating the pace of cost and price inflation without depressing aggregate demand and checking expansion.[132] The problem is virtually the same in all western European industrialized countries: a rapid expansion and the accompanying strong demand for labour produces upward pressure on money wages; a rise of aggregate personal income greater than the increase in resources available for consumption, and/or a rise of the average wage level exceeding the rate of growth of productivity, brings a threat of price inflation; a subsequent wage-price spiral (or a wage-wage spiral when groups that have lagged behind the general rise of wages try to restore their relative position) may thus add to the problem, which will be made even more acute if enterprises (and also the self-employed) succeed in increasing their monetary incomes. Not only do most governments wish to avoid the domestic economic and social problems inseparable from a rapid price inflation, but the increasing degree of interdependence between the economies of western Europe means that it is becoming more difficult to correct balance-of-payments disequilibria — such as those which result from widely varying national rates of cost inflation or demand pressures — by means of direct action on foreign trade flows or changes in exchange rates. Attempts to prevent such difficulties by general budgetary and monetary restraints and credit limitation tend to check expansion. Thus the view that an " incomes policy ", which will lessen the dangers of cost/price inflation, is an essential weapon in the armouries of economic policy is gaining currency. An incomes policy could, in principle, be evolved in the absence of a plan. But it probably has a better chance of general acceptance if it is set in the framework of a plan which sets out clearly the potential gains and the choices involved. A plan should help to develop a better understanding of an incomes policy, and provide a common framework for a discussion of the issues among the representatives of the various social and economic groups in the community. Trade union co-operation is essential for the success of such a policy and is more likely to be offered if governments ensure that other groups conform with the incomes policy, by the use of fiscal measures, the control of distributed profits and, possibly, price regulations, etc.

In the context of price stabilization and policies for wage regulation — but also in that of longer-term regional policies — the measures undertaken in many countries for influencing industrial location and promoting the regional and occupational mobility of labour are also of interest; and Swedish labour market policies appear worthy of study.[133]

In the case of instruments for implementing structural changes, two sets of measures deserve particular mention: those intended to influence the pattern of growth of investment and output to the extent called for by their plan targets and those which seek to promote a more balanced regional development. French policies in the former category are almost unique. The authorities plan investment and exercise a detailed influence over investment decisions in key branches of the private sector. In earlier years this influence was used to allocate investment resources among industrial branches; but, rather quickly, the emphasis shifted to the need for an efficient use of resources within each branch of activity. The aim then became to encourage investment for approved purposes — such as productivity improvements — rather than to influence the detailed pattern of development by branches, though the authorities continue to pay special attention to the key sectors of the economy. As already pointed out, this objective has been pursued by establishing a very complete mechanism of financial controls and fiscal and other incentives, operated on the basis of a firm-by-firm and project-by-project review of most large-scale investment outlays.

In Norway, the system of credit control is at least as complete as in France, and has been reinforced by physical controls on construction and, until recently, on imports of equipment. It has been used to influence both the regional and the sectoral pattern of development as well as to promote — across the whole field of industry — such aims as export expansion. But project-by-project control on the French pattern has not been attempted. In the Netherlands and Sweden, detailed influence over the investment structure has been ruled out, apart from measures to influence the pattern of regional development and, in the Netherlands particularly, to give priority to production for export.

In this respect differences among these four countries partly reflect the different priorities of policy objectives — the emphasis placed on modernization and productivity improvements in France and on influencing the sectoral (and regional) pattern of development in Norway, in contrast with a more general effort to maintain relatively high investment ratios in the other two countries. In part, also, in the Netherlands and Sweden, they reflect the belief that, in most sectors of activity, individual responses to market forces are likely to be more effective than central decisions in bringing about the adjustments of the production structure that are needed to meet foreign competition in a virtually " open " domestic market (at least for industrial products) and to raise exports fast enough to sustain overall growth. In these two countries, the authorities have concentrated on establishing a generally expansionist economic climate, leaving the pattern of growth to be determined mainly by private initiative.

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[132] The Netherlands Government, until the mid-fifties, was successful in pursuing — in co-operation with the employers' organizations and the trade unions — a wages policy which held down the rate of increase of money wages and domestic prices. Subsequently, money wages rose quickly for some years, partly reflecting adjustments both of the price structure and of wage relatives that had become necessary; a new system of regulation now operates (see sub-section (*c*) above).

[133] As already stated, the National Economic Development Council in the United Kingdom has laid particular stress on the desirability of encouraging the location of industry in labour-surplus areas; and its report, *Conditions Favourable to Faster Growth*, briefly reviews the measures in this field taken in the Scandinavian countries, Belgium, France, Italy and western Germany, which are more far-reaching than those applied in the United Kingdom.

The range of credit controls and of fiscal and monetary measures for influencing investment is less complex, and less complete, in the Netherlands, Sweden and the United Kingdom — and much less so in Belgium — than in Norway or France. But all these countries could have used such controls (and some of them building licensing also) more selectively had they so desired. However, it is perhaps worth noting that in any market economy the discriminatory restraint of a generally strong investment demand (the latter based on a belief in the probability of continuing rapid overall expansion) is likely to be easier to implement than the selective stimulus to a generally weak investment demand. Nevertheless, most countries have also developed measures for stimulating investment — fiscal incentives (in the form of investment allowances, etc.), offers of credit on favourable terms and government guarantees — which have been used selectively to a marked extent in France and could be used, if desired, elsewhere.

In most of the countries reviewed above, the promotion of a more balanced regional development has been, or is likely to become, an objective of some importance. It has been given particular attention in Norway and France and, to a somewhat lesser extent, in Sweden and the Netherlands. The significance of measures to improve the regional balance of development for labour market policies has been mentioned above. However, in the field of regional development, so far most governments seem to have devoted relatively little attention to the formulation of precise criteria for the application of their rather effective policy instruments and for assessing the relative costs and benefits of enforcing a location pattern different from that which private decisions would otherwise produce. This problem has two main aspects — criteria for choosing development areas and those for selecting the projects to be located in such areas — both of which, it is generally recognized, need more attention.

It is impossible to give any clear verdict on the " adequacy " of the measures of plan implementation used in industrialized western European countries. As was noted in Chapter II, rates of growth of output, of fixed capital formation and of exports during past plan periods in France, the Netherlands, Norway and Sweden have generally been higher than foreseen in the plans. But the growth performance of these countries has not been particularly striking compared with that of some other countries, notably Austria, western Germany and Italy,[134] which had not resorted to planning methods. It is true, however, that in France the aim of inducing very high returns to factor inputs was realized. In Norway, on the other hand, returns to inputs in terms of overall growth have so far been relatively low, though it is difficult to say how far this may have been due to inadequate instruments for plan implementation and to what extent large, delayed returns will be realized in the near future. Moreover, Norwegian experience raises the issue of how success in promoting regional development can be weighed against comparatively low overall returns to inputs.

There are indications, however, that planning is becoming increasingly accepted as a more rational basis for policy-making. Thus France, the Netherlands, Norway and Sweden (and latterly the United Kingdom) are strengthening their planning activities and other countries have now adopted planning methods or are exploring ways and means of doing so. Planning could be made more effective still if, in a number of fields such as those indicated above, the range, and even more, co-ordination in the use, of policy instruments could be improved.

Finally, it is difficult to assess the usefulness of " transplanting " particular techniques of plan implementation from one country to another without a much more profound study than has been possible here, though attention has been drawn to certain measures that merit wider consideration.

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[134] See *Economic Survey of Europe in 1961*, Part 2, " Some Factors in Economic Growth in Europe during the 1950s ", Chapter II.

B. The southern European countries

1. INTRODUCTION

The objectives of the plans of the four southern European countries here reviewed — Turkey, Greece, Portugal and Spain — were outlined in Chapter II. It was noted that the plans generally call for, firstly, an acceleration of the rate of economic expansion recently achieved and, secondly, a greater structural transformation of the economy and change in the pattern of national expenditure (notably by raising the investment ratio) than are required in the industrialized economies.

All southern European governments that have adopted development plans hope to achieve their quantitative objectives with reasonable domestic price stability, an export expansion and an absence of strains on the balance of payments; it is hoped that this will be achieved in the context of " liberal " economic policies and reliance on private initiative over the greater part of the economy. Yet, whereas in western European countries such as France, the Netherlands and Norway, co-ordination within the public sector and co-operation between public and private initiative already exists, the southern European countries are still confronted, in varying degrees, with the need to establish such pre-conditions for successful plan implementation. Moreover, there is an urgent need in these countries to create, or to improve considerably, many of the instruments of policy which have long operated with reasonable efficiency in the industrialized countries.

2. Country Studies

(a) Turkey

The Turkish Five-year Development Plan for 1963-1967, prepared by the State Planning Organization set up in 1961, was ratified in November 1962 by the Grand National Assembly, thus giving the Government general powers to act within the principles laid down in the basic plan instruments.[135] Implementation of the plan objectives, however, in many cases requires legislation, not all of which has yet been submitted to or passed by the Grand National Assembly, partly on account of political and social differences within the coalition government.

Foremost among the institutions that are particularly concerned with the implementation of the plan is the State Planning Organization (SPO), the structure of which is described in Chapter II. The SPO not only prepares the plan but also recommends the policy measures which are essential to its realization. The Government as a whole bears responsibility for deciding upon the general policy measures for the plan's implementation,[136] but in the sphere of direct activity by the public sector, the directives of the plan, once ratified, are mandatory. Each ministry and/or each general directorate [137] is obliged to act in accordance with the plan's targets; the role of the SPO is to indicate the projects that should be undertaken and the services to be provided by the different units of the public sector. A special section is to be established in each ministry which would be in continuous liaison with the SPO, prepare the estimates for the projects and services deemed necessary by its ministry and submit them to the SPO. The SPO evaluates these claims and assigns priorities to the various projects within each ministry's programme. It also reviews their execution, and submits quarterly progress reports to the High Planning Council.[138] Should divergences from the planned development arise, the SPO is to draw the attention of the High Planning Council and/or the individual ministries to them in order that they may be rectified. However, at this stage, the SPO itself has no executive powers; it merely acts as an adviser, indicating to the Government and to individual departments the actions it considers necessary.

Measures of general policy

The plan sets detailed targets for government investment in communications, irrigation, land improvement, education and social services, etc. and for the investment of state economic enterprises; but the price mechanism has been accepted, in general, as the medium through which scarce resources will be allocated within the private sector. It is supported by tax, credit and foreign trade policies that are designed to assure the achievement of the planned total volume of investment resources and it is also proposed to establish a capital market; but direct controls over private investment are eschewed.

The Five-year Plan recommends the implementation of a series of specific measures and reforms which need to be carried out and institutions which need to be established. These measures are elaborated in the annual programmes. Within the field of public finance, a tax reform is proposed, not only to raise public revenues to meet the expansion in public sector activities envisaged by the plan, but also to make the tax system more equitable, to encourage private investment in the required fields and to stimulate exports. Among the various possibilities of raising additional revenue the plan specifies the following: assessing sources of income which, hitherto, have been exempt from tax; bringing up to date the bases of certain " eroded " taxes, such as the property tax; revising the pricing policy of state economic enterprises and trading services in order to convert them from subsidized into profit-making enterprises; increasing the prices of monopoly products; and introducing investment incentives into the income-tax structure.

Within this context the exemption of farmers' incomes from taxation was brought to an end in 1962, though the number of farmers so far involved is relatively few and agriculture's contribution to tax revenue is still small in relation to the importance of that sector in the economy.[139] Investment allowances of 30 per cent are now accorded for agricultural investments of more than £5,000 (Turkish), for non-agricultural investments exceeding £125,000 and specified as urgent by the plan and for all other productive investments undertaken in compliance with the general targets of the plan and exceeding £250,000. The allowance is increased to 40 per cent if investments are made in an area for which a regional development plan has been drawn up, and to 50 per cent if they are undertaken in the most backward areas of the country. However, in the first year of assessment, the investment allowance cannot exceed 20 per cent of the gross earnings, any excess being carried over to the next assessment year. In addition, accelerated depreciation allowances have been introduced, so that assets may be written off in half the period previously allowed.

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[135] See " Objectives and Strategy of the Plan " (resolution adopted by the High Planning Council) in *Introducing Turkey's State Planning Ogarnization,* State Planning Organization, Ankara 1962. These directives provide, *inter alia,* for the preparation of annual programmes.

[136] Annual expenditures provided for in the plan are met principally out of the general and annexed budgets; there is no separate development budget.

[137] That is, directorates for such state activities as irrigation, forestry, etc., which are virtually autonomous, though formally attached to ministries.

[138] As stated in Chapter III, the High Planning Council is composed of the Prime Minister and certain other ministers, the Under-Secretary and the three departmental heads of the State Planning Organization.

[139] The limited progress made towards raising additional taxation from the farm sector and, in general, in reforming the tax system in line with the plan objectives, was reviewed in Part 1 of the SURVEY for 1963, Chapter III, p. 28.

To secure a more rational distribution of credit in the economy, the Five-year Plan recommends, first, the gradual lifting of restrictions on interest rates (by abolishing the present ceilings) and allowing rates for various kinds of credit to approach as closely as possible the "economic" interest rate. Secondly, it emphasizes the need for new banking arrangements to ensure a sufficient supply of short-, medium- and long-term credit, either through new credit institutions or by a reorganization of existing ones. Long-term credit for state economic enterprises is to be supplied by a State Investment Bank, legislation for which was finally passed in March 1964; and for private enterprises it will be supplied by a new institution, the Industrial Investment and Credit Bank, which commenced operations in 1963. Owing to the lack of a capital market, long-term finance has been supplied until now partly by the Industrial Development Bank, whose funds (recently augmented) are not sufficient to meet the demand for long-term credit in other sectors. Therefore, a Bill has been submitted for the establishment of a new Mining Bank and also for a structural reform of the existing Tourism Bank.[139a] Fundamental changes are also to be made in the structure of the Agricultural Bank to convert it from a commercial bank into an investment bank.

The State Investment Bank is not responsible for the central co-ordination of the investments of the state economic enterprises, but acts merely as a financing agency, operating so far as possible on the usual commercial criteria.[140] Thus, though the legislation provides that the Bank will receive its funds mainly from official sources, and that it may grant investment credits only after an examination of the technical, economic, and financial aspects of a project, satisfactory control of the investment programmes of state enterprises has not yet been achieved. Moreover, and contrary to the original intention of the plan, the new bank is not an exclusive source of investment finance for these enterprises.[141] The newly established Industrial Investment and Credit Bank obtains its capital partly from its members (a consortium of existing private banks) and partly from the Treasury (United States counterpart funds). Consequently, the commercial banks, being relieved of the burden of supplying long-term credit, should have greater scope for genuine short-term financing.

In the sphere of foreign trade, general and specific measures are proposed to promote equilibrium in the balance of payments on current and long-term capital account, which it is expected will only be attained during the second Five-year Plan. A moderately high, but gradually declining *ad valorem* tariff is regarded as essential to overcome the initial disadvantage of an under-developed economy trading with industrial countries.[142] This will be reinforced by selective import policies giving priority to commodities which contribute to the realization of plan targets and encouraging the use of domestic resources by complete or partial exclusion from the import lists of commodities produced domestically. Strict controls of quality, standards and packing are to be applied to exports; and export incentives will include credits to finance stockpiling and refunds of taxes and other charges. Thus, all indirect taxes included in the domestic price of exported commodities are to be refunded; and the possibility is being examined of exempting from indirect taxes all credits and insurances connected with export transactions. Furthermore, an export Promotion Centre (IGEME) — an independent organization set up jointly by the Government and private enterprises — has been created to investigate marketing possibilities and to advertise in foreign markets.

Planning and the state enterprises [143]

State enterprises in Turkey are of long standing and cover a very extensive area of operation. They account for approximately 40 per cent of the industrial production of the country, and in 1961 they undertook 17 per cent of all fixed investment and employed around 230,000 persons — 11.4 per cent of the total industrial labour force and 8.4 per cent of that employed in services. Because of their large share in the economy they are potentially very powerful instruments of economic development policy. At present, however, they are not in a position to perform their proper functions within the national economy since they operate, in general, without sufficient concern for economic efficiency, and are in a financially critical position. Their reorganization is imperative in order to make them financially self-supporting, improve their efficiency and co-ordinate their investments within the plan framework, while according them greater commercial freedom. As a first step in this direction a law on State enterprises was finally enacted in March 1964, which lays down the basic conditions for their operation.[144] It provides, *inter alia*, for their control by the appropriate ministry (including inspection of their accounts), for annual and longer-term investment and financing programmes (to be reviewed by the national planning organs), and for proper accounts to be kept. It also lays down rules governing management of the enterprises. Implementation of the law is in the hands of a committee of six members, including one drawn from each of the major ministries concerned with planning (Finance, Industry and Commerce) and a fourth from the State Planning Organization; it is chaired by the Ministry of Finance. Its mandate, to be completed within two years, is generally to review the existing organization, status and operations of the individual enterprises, propose measures of reorganization (including possible mergers), establish rules for the revaluation of assets and liabilities, and make recommendations for improving the technical, administrative and financial structure of the enterprises.

[139a] In July 1964 draft statutes were prepared for an investment bank for the private sector, which would operate as a state enterprise and would lend to industry, mining, tourism and shipbuilding. It is not yet clear how the activities of this bank would fit in with the existing, or other proposed, credit institutions.

[140] However, for projects in underdeveloped regions that cannot be justified purely on commercial grounds, the Bank may lend on the basis of a Treasury guarantee authorized by the Council of Ministers.

[141] See below and also the SURVEY for 1963, Part 1, Chapter III, section 3(b). The State Investment Bank was established by law 441 of 12 March 1964 (*Turkish Official Gazette* of 21 March 1964). For an English text, see *Turkish Economic Review* (Ankara), May-June 1964, pp. 97-40.

[142] However, tariffs on many items were raised in the summer of 1964, for both protective and revenue purposes.

[143] See also the discussion on the role of the public sector in Part 1 of the SURVEY for 1963, Chapter III, pp. 15-16.

[144] Law No. 440 of 12 March 1964 (published in the *Turkish Official Gazette*, 21 March 1964). For an English text, see *Turkish Economic Review* (Ankara), April 1964, pp. 33-39.

The law gives effect to the intention, expressed in the Five-year Plan, of allowing the enterprises complete commercial freedom and freeing them from *ad hoc* interventions, for reasons of political expediency, by the Government and/or the ministries to which they are attached. It specifically authorizes them to fix the prices of their goods and services and lays down the basic principle of efficiency and profit-mindedness. The only exception to the profitability requirement concerns those enterprises, such as railways, which provide " fundamental goods and services ", where prices will continue to be fixed by the Government and any resultant losses will be met from the budget.

It is, of course, premature to say whether these measures will prove sufficient to ensure proper co-ordination of the investment of state economic enterprises and their compliance with the Five-year Plan; much will no doubt depend on the vigour and determination with which the above-mentioned committee fulfils its mandate and overcomes the various obstacles to adequate control of the enterprises that have hitherto been experienced.

Planning and the private sector

In order to attain the targets set out in the plan, it will be necessary for the volume of private investment to increase, and for its pattern to change in favour of productive fields (while avoiding branches where there is excess capacity).[145]

In this respect, the plan merely performs the role of a guide; it does not impose, but indicates, the activities called for in the plan directives, and proposes measures (already described above) for creating an expansionary climate and ensuring sufficient resources for a high rate of investment. Each annual plan specifies the fields of activity which should have priority; and by means of selective tax adjustments, in the form of varying investment allowances, it is hoped to stimulate investment, particularly in those branches where it is considered to be of immediate advantage to the growth of the economy.[146]

Furthermore, the State Planning Organization is ready to discuss with any private enterprise its investment opportunities and projects, and to advise on all factors affecting investment and output. A number of private firms have already made use of this service.

Conclusions

Although the idea of planning is by no means new in Turkish economic history, the 1963-1967 plan, drafted within a fifteen-year perspective, is the first comprehensive plan covering all sectors of the economy. Its success in achieving the desired expansion of the economy, and in realizing the targets, depends upon a number of factors. Foremost among them is the recognition by all those concerned with economic decisions of the relevance of a plan and of the vital importance of rapid economic development and the acceptance by the mass of the people of a relative slow growth of living standards during the initial investment drive. Moreover, the government departments themselves must be willing to conform to a general plan and, consequently to accept interference with their prerogatives.

The speed with which all the machinery necessary for the implementation of the plan can be created will be another factor determining its success. Certain policy measures already taken or submitted for parliamentary approval have been referred to above; others will have to be introduced. On some of these measures — such as land or fiscal reform — no satisfactory outcome has yet emerged; but the successful development of the agricultural sector depends, in certain regions, on how quickly land fragmentation can be stopped and the peasants induced to form co-operatives and, in others, on how fast land can be distributed among landless peasants. The authority to determine policies of this nature is vested not in the executive, but in the legislative, branch of the government; and any reform thus requires a wide measure of agreement among the political parties.

Another important factor concerns the financing of the plan. It has been stated that no recourse will be had to inflationary finance. The realization of the plan targets consequently depends on how much finance for investment can be raised from foreign and domestic sources by non-inflationary means. The most important source of external finance, apart from private (and official bilateral) capital, is the consortium formed under the auspices of the OECD, which took over responsibility for international lending to Turkey in 1962.[147] The problem of finding the necessary domestic financial resources is more delicate. An increase in public saving is one of the elements in the planned rise in central government tax revenue from 14.6 per cent of gross national product in 1962 to 17.3 per cent in 1967 — or by nearly 15 per cent a year.[148] This immediately raises the question of which taxes to increase and which now taxes to introduce.

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[145] It is intended, for example, to reduce the share of housing construction from 55-60 per cent of total private investment in the pre-plan period to 47 per cent in 1967 and, at the same time, to bring about a change in its composition — away from luxury housing towards " utility " housing. (But see footnote 126 and the corresponding text of Chapter III of Part 1 of the SURVEY for 1963.)

[146] Thus, in 1963, for example, more than £125,000 (Turkish) investments in the plastics branch and £250,000 in textiles benefited from such allowances. The annual programmes include a separate section on " Guidance to the Private Sector ".

[147] The agreement of association with the EEC entitles Turkey to loans from the European Investment Bank.

[148] The rise planned in total public revenue of all kinds is from 24.7 per cent to 27.5 per cent.

Indirect taxes provided 65.5 per cent of total central government tax revenue in 1962. Partly because of the type of goods and services which attract tax, total revenue is not very income-elastic; but its elasticity could be increased by raising the share of income tax within the total. As noted above, some steps in this direction were taken when a beginning was made to the taxation of agricultural incomes, but taxes on petroleum products (except kerosene) and on products sold exclusively by the State Monopolies Administration (cigarettes and alcoholic beverages) were also increased in 1963, switching further the weight of the system towards indirect taxes.[149] This has inevitably had some impact — albeit only a small one — on domestic prices and costs. Further increases in indirect taxes were made in 1964 in order to finance public expenditure.[150] On the other hand, in a country such as Turkey, where it is difficult to collect direct taxes efficiently (due to the ease with which assessment can be evaded and lack of adequate control on the part of the fiscal administration, etc.), heavy dependence on indirect taxes can scarcely be avoided.

In short, the success of the Five-year Plan will depend largely on the extent to which the public and private sectors co-operate in its fulfilment. This, in turn, will depend on the speed with which contemplated reforms are introduced, means of implementation are created, and the private sector induced to expand investment in the desired directions.

(b) Greece

The Greek plan for the period 1962-1971 (including the subsidiary plan for 1962-1966) cannot be considered as a clear-cut and definite instrument of economic policy. It simply quantifies in a fairly clear and precise way the general growth objectives and provides a framework within which policy measures will be applied to orient the economy generally in the desired directions.

Machinery for plan implementation

The Government has emphasized its intention to rely very largely on private enterprise for the achievement of the plan targets, while creating the basic conditions for faster development by establishing the necessary infrastructure, agricultural extension services, education and training facilities, etc. It has also introduced facilities for financing the investment required from the private sector, and fiscal and other incentives to encourage the desired volume and pattern of outlays. During the years 1962-1966, 14 per cent of all investment is expected to be financed from public saving (involving a rise of 15 per cent a year in its level), and 69 per cent from private domestic saving (involving an increase of 8 per cent a year), while 16 per cent will need to be financed from abroad.

A number of specialized public institutions exist which are able to influence the pattern of investment in Greece. The Ministry of Co-ordination is responsible for selecting from among investment projects proposed by public agencies those which are considered of sufficient priority, in the light of the plan targets, or — in the case of private investment projects submitted — those which may benefit from the special financing and other facilities available.[151]

The Economic Development Financing Organization (EDFO) can finance up to 70 per cent of the cost of private projects and may also offer credit guarantees. Its funds are derived from government and foreign loans and from United States counterpart funds.[152] The Industrial Development Corporation engages, alone or in participation with the commercial banks providing long-term credit, in the promotion and financing of new large productive units in industry and mining and of preliminary studies and surveys in this connexion.[153] The Agricultural Bank supplies credit, in conjunction with the co-operative societies, both to agriculture and to industries linked with agriculture. The AGREX — Agricultural Export Enterprises — mainly finance exports of fruit. The National Tourist Organization undertakes, among other things, the construction of hotels in tourist areas where facilities are lacking, with the intention of selling them ultimately to the private sector. A negative control, which can ensure effective priority for projects consistent with the plan, is provided by the Industrial Licensing Bureau, to which all proposals to build new factories or extend existing ones have to be submitted. The Currency Committee, consisting of the ministers concerned with economic policies and development and the Governor of the Bank of Greece, under the chairmanship of the Minister of Co-ordination, is responsible for control of the volume of credit, for determining maximum interest rates to be charged by the banks and specialized institutions on various categories of loan (see below), and for ensuring the availability of foreign exchange for imports required for development projects.

In contrast with Spain and Turkey, state economic enterprises are few in number. They are mainly in the transport, mining and electric power sectors, with relatively few in manufacturing. However, in addition to its normal investment in infrastructure and social services, the Government is prepared to invest in vital branches of industry should private initiative be too hesitant to undertake projects of key importance for the plan. But the intention is to sell such undertakings once their proven viability brings forward willing private purchasers.[154]

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[149] The extra revenue expected from these changes was £200 million (Turkish) from taxes on petroleum products, £200 million from price increases of State Monopoly products and £250 million from stamp duties, thus raising the share of indirect taxes to 67.5 per cent.

[150] Rates of the production/turnover tax and of taxes on motor vehicles and on real estate were raised, and the exemption for kerosene was removed. Also, the exemption limit for taxation of agricultural incomes was lowered, but by less than the Government had requested.

[151] One facility available to private investors (as a result of Greece's association with the European Economic Community) is that of applying for finance of projects by the European Investment Bank, provided the support of the Ministry is first obtained. So far, however, commitments of the Bank have been mainly for public sector projects.

[152] It may also raise loans on the open market, but has not yet had recourse to this possibility.

[153] For further information on the activities of these two organizations see Part 1 of the SURVEY for 1963, Chapter III, pp. 13-14, and Industrial Development Corporation, *Guide to Investment in Greece*, Athens 1962. It has been announced that the two organizations will be merged into a single public entity for public participation in, and financing of, the industrial sector and a bill to this effect has been tabled.

Control by the Currency Committee of investment credit has resulted in a decree requiring the commercial banks to set aside 15 per cent of their total deposits to provide long-term credit, chiefly for fixed investment in industry, and in various detailed instructions to the banks and the EDFO on credit terms.[155] As a result of decisions taken in March 1962, the commercial banks were authorized to provide short- and medium-term credit at the rate previously accorded only to exporters (that is, 6 per cent, plus 1 per cent commission) to all industrial and handicraft enterprises exporting a stipulated minimum (and gradually rising) share of their total sales.[156] A further concession concerned long-term bank lending (including lending to the mining and quarrying branches), the maximum repayment period for which was raised to ten years (at the standard rate of 7 per cent); loans were allowed to cover up to 70 per cent of the cost of new installations. Loans to new enterprises were authorized at only 6 per cent interest (plus commission), on condition that 25 per cent of total sales were exported, and only 5 and 4 per cent if 40 or 60 per cent, respectively, were exported.[157] Following the authorization — granted by the 1961 law on the promotion of industrial development — for foreign firms to undertake technical studies of development projects, the EDFO may now extend credit for up to ten years at only 2 per cent for financing the cost of such preliminary studies.

The cost of these loans at reduced rates is to be borne jointly by the Bank of Greece and the commercial banks, which will contribute 0.5 per cent of their total credits to a special fund for this purpose. Any balance will be used to finance an export insurance scheme.

Among fiscal measures to encourage private investment, Law 4002 of 1959 provided for deductions from taxable (i.e. undistributed) profits till 1964 of up to 50 per cent (60 per cent for specified provinces and 90 per cent for the islands) of expenditure on new productive investments. In the same year the law of 1957 relating to tax concessions on mergers was widened in scope, and in 1961 measures to stimulate the development of the economy provided, *inter alia*, for the exemption of industrial and mining enterprises from all charges due to the Government in respect of loans or credits from foreign banks or foreign suppliers of machinery. Moreover, until such time as long-term loans contracted prior to the start of production are paid off, and up to a maximum of 15 years of actual production, enterprises engaging in " productive investment "[158] are guaranteed against any change in tax rates on undistributed profits and against taxation of capital, as well as against changes in rates of municipal and communal taxes.

A further encouragement to industrial investment has been a 1959 law exempting for four years existing industrial enterprises from customs duties and other taxes on machinery and equipment imported for modernization (on the condition that equivalent old plant is scrapped). These exemptions were extended unconditionally in 1961 to all important "productive investments ", covering equipment, construction materials, research apparatus, cranes and vehicles (whether imported or domestically produced) as well as to coal, coke and minerals imported by metallurgical enterprises. These provisions were prolonged for a further five years in 1963.

The fiscal incentives mentioned above apply equally to domestic and foreign capital, whereas until 1961 special terms had been available only to foreign capital. Furthermore, although the inducements are mainly for the establishment of new plants, existing enterprises may also benefit if they undertake a certain minimum investment in the extension of their plant.

Among fiscal measures intended specifically to encourage exports are discounts — at rates varying from 2 to 4 per cent of gross receipts from exports of agricultural, mining and industrial products — on the gross taxable income of enterprises.

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[154] The only industrial projects written into the plan as government undertakings (and recently completed) are a nitrogenous fertilizer factory and two sugar refineries. It is hoped that the various incentives to private investment will render any further direct government intervention unnecessary.

[155] Banks are also allowed to invest 5 per cent of deposits in the stock of new productive enterprises. For an English text of the consolidated regulations of the Currency Committee governing the financing of the economy by the commercial banks, see *Trade with Greece* (Athens Chamber of Commerce and Industry), July 1964.

[156] In April 1963, the rate for exporters was reduced to 5.5 per cent; the minimum share was originally fixed at 6 per cent (of 1961 sales), rising to 20 per cent (of the previous year's sales) by 1966. If the export share is larger (rising to 25 per cent by 1965) the rate of interest is two percentage points lower. In October 1963 it was decided to maintain the minimum export share at 6 per cent in 1963 and in 1964 also (12 per cent for loans at the two-point lower rate), and to require a minimum of 20 per cent from 1968 onwards (25 per cent from 1967 onwards for loans at the lower rate). A ceiling on such loans has been fixed at twice the value of the share capital (plus reserves) of the enterprise. So as to discourage an excessive expansion of capital, loans may be granted at one percentage point below the normal export rate if the average level of a firm's bank borrowings does not exceed its net capital position.

It should be noted that for purposes of assessing the export share of an enterprise's turnover in connexion with all the above facilities, only exports in convertible currencies are taken into account; that is, trade with eastern Europe and other trade through clearing agreements is excluded.

[157] For the modernization and extension of existing enterprises the corresponding export quotas were lower — 20, 25 and 40 per cent, respectively. In both cases these long-term loans at privileged rates (unlike the medium-term ones referred to above) are not subject to any ceiling. With effect from October 1963 minimum export shares for long-term loans at the special rate were made the same as for short- and medium-term loans (i.e. 6 per cent, rising to 20 per cent).

[158] " Productive investment " is defined as investment in fixed assets of at least 90 million drachmae (reduced in 1962 to 60 million drachmae) which is considered (by the Ministers of Finance and Co-ordination and the minister of the department concerned, after consultation with a special committee) likely to lead to a substantial increase in production and employment or a marked improvement in the balance of payments. The provisions also cover extensions worth at least 30 million drachmae (reduced in 1963 to 20 million drachmae) where the original project benefits from exemption. The Government may also make special arrangements with enterprises investing at least 180 million drachmae.

Regional planning [159]

Much attention is paid in the current plan to the problem of regional development; and it is the Government's intention to develop the Patras, Salonika and two other mainland regions (as well as Herakleion in Crete) so that they form " development nuclei ". Legislation has been proposed for the creation of industrial zones; and industrialization is to be stimulated, first, by creating the necessary infrastructure and, secondly, by encouraging the establishment of a skeleton of basic industries (oil-refining and petro-chemicals, steel sheets, etc.) around which complementary industries can develop. The policy of spreading development, and centres of industrial employment, over the country is in part motivated by a desire to avoid further overcrowding of the Greater Athens area; but profitability and economic return are not neglected in considering questions of location, and it is recognized that in certain cases it may prove far less costly to move population to the areas more suitable for industry.

As already stated, the Government offers certain financial incentives for decentralization, by providing greater deductions from taxable profits for expenditures on industrial investment in outlying areas than in others (subject to the new policy of industrial zones). Various regional development plans are under preparation, such as those for the western Peloponnese (in collaboration with FAO and the UN Special Fund), Epirus and Crete. It is anticipated that, at a later stage, the entire national plan will be subdivided into regional plans and the Ministry of Co-ordination is already working on the basic framework for this.[160]

Conclusions

As is clear from this brief review of the instruments of plan implementation available in Greece, the Government has at its disposal several means by which it can influence the pattern of investments; and it offers significant direct incentives to encourage a rise in the volume of private investment and, particularly, to encourage production for export. The success of the plan as a whole will depend largely on the extent to which these measures, and the increasingly widespread publicity and direct consultations on plan targets between the planning authorities and industrialists and others, succeed in stimulating the private enterprise on which the Government intends to rely almost wholly outside the infrastructure field. Private industry has to develop in such a way as to be able to face increasing competition from the EEC countries in its home market. (It also gradually benefits, of course, from the preferential tariff and other arrangements of the EEC.) The need to raise the domestic savings ratio during the plan period (see Chapter II, section 2), and particularly to raise public saving very fast, poses a problem for budgetary and fiscal policy similar to that already noted in Turkey.

So far, the private sector has not fulfilled the role mapped out for it in the current or earlier plans, though there has been a quickening of investment in the last three years. For example, despite the decree (referred to above) compelling the banks to set aside 15 per cent of their total deposits for long-term financing of fixed investment in industry, only 47 per cent of the funds thus made available were so used by the end of 1963. However, efforts to publicize the aims of the plan and consultations with industry are yielding some fruit; and examples exist of entrepreneurs increasing their investment programme after having studied in committee demand projections and the capacity and cost structure of their industry. There is now a tendency to formalize government-industry contacts. Foreign investment in Greece has also been lagging behind plan expectations, in spite of an acceleration since 1963, and thus the establishment of new industries has not been as rapid as was desired.

In the public sector, the basic objective has been to achieve a current budget surplus sufficient to finance the greater part of the public investment programme without detriment to the financial needs of the private sector. However, owing to the rise of public investment in agricultural infrastructure and other sectors, connected with the development drive, there has been a deficit on the combined current and capital account which has been growing since 1959. So far this deficit has been successfully financed by domestic borrowing, supplemented by loans and grants from abroad. But meeting the public sector's requirements without too heavy an external debt burden or without detracting from private investment initiative may cause greater strain on the public finances in the future.

Efforts to raise government revenue have led, as in Turkey, to a rise in the share of indirect taxes in the total. They accounted for about 80 per cent of all state tax revenues in 1961 and, despite intentions to raise the share of direct taxation and thus to increase the elasticity of tax revenue, it proved necessary in 1962 to recoup revenue losses from concessions at the lower end of the tax scale (and partly also to compensate for the effect on the budget of the cessation of United States aid) by additional indirect taxation.[161] The financing of the growing government expenditure (including rising public investment) will hardly be possible without tapping additional sources of revenue. Domestic borrowing may be expected to supplement tax receipts to an increasing extent, but the point may be reached where it can only do so at the expense of finance for the private sector; and the outlook for external borrowing is uncertain. Hence the need for suppressing tax evasion and maximizing tax revenue is becoming a major concern of the Government.

(c) Portugal

As was pointed out in Chapter II, the targets of the current Portuguese plan are quantitatively less ambitious, in terms of rates of economic growth and of investment, than those of Greece and Turkey; but the achievement of the plan targets nevertheless requires a sharp rise in the domestic savings ratio.

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[159] Cf. also the Survey for 1963, Part 1, Chapter III, pp. 16-18.

[160] The government agencies concerned with the regional development studies are, in fact, branch offices of the Ministry of Co-ordination.

[161] The tax on tobacco was increased (following the tax introduced in 1961 for financing the agricultural insurance scheme), taxes were imposed on ice, refrigeration, mineral water, telephones and coffee, and the taxes on beer and banking transactions were raised.

The plan document stresses a balanced budget as a necessary condition for achieving expansion without inflation;[162] but neither the plan document nor actual Portuguese policies have so far given any clear indication of the shares of public and private saving that will be necessary or of the detailed budgetary and fiscal policies regarded as appropriate for inducing expansion. A fiscal reform, affecting the taxation of industry and agriculture, came into force in 1964 and steps have been taken to encourage investment by exempting equipment for some industries from import duties and granting special tax allowances to some new industries.[163]

Monetary and credit measures

Monetary policies have aimed at increasing the supply of investment funds by reducing the excessive liquidity preference of the small saver and by allowing the banking system to use its liquid funds for development purposes. Action to mobilize individual savings has been centred mainly on the issue, since 1961, of savings bonds on attractive terms.[164] Commercial banks have been allowed to reduce the ratio of cash reserves to liabilities and a special type of medium-term bond (Promissórias de Fomento Nacional) has been issued in order to mobilize part of their cash reserves for development purposes.

The Government can exercise an influence on the distribution of investment by three principal means: the budget (see below), the National Development Bank and control over capital issues.[165] With respect to this last instrument, preferential treatment may be granted to firms whose projects fall within the general lines stated as desirable in the Development Plan; but it is uncertain how far this control has been used to influence the distribution — as distinct from the overall volume — of investment.[166] The National Development Bank,[167] created in November 1958, is the main investment bank, its task being to mobilize financial resources for development projects. Working under close government control, it has had some success in financing not only projects included in the plan (see below) but also other private projects. In fact, over one-third of the credits granted in 1960 were for projects not included in the plan.

The Bank operates mainly by making loans, but it has also financed certain projects through purchases of securities. Over 90 per cent of its lending in both forms has been to the private sector. However, the importance of the Bank for the economic development of the country has so far been modest. Credits granted by the Bank between 1960 and 1963 within the framework of the Second Development Plan amounted to 2.5 per cent of gross fixed capital formation. The provision of long-term finance thus remains far from adequate; and much of the demand for it continues to be met by repeated extensions of short-term loans by the commercial banks. With a view to improving the supply of credit, a decree law of October 1962 (relating to the changes in planning machinery noted in Chapter III) made provision for an Economic Development Fund which would provide directly (or indirectly, through the National Development Bank and other credit institutions) government finance to private enterprises and participate in the establishment of new firms. At the time of writing, however, the Fund had not yet come into existence.

The Technical Secretariat to the Presidency formulates, in close collaboration with the government departments represented in the Interministerial Committee for Planning and Economic Integration and with those enterprises which carry out specific projects, the yearly budgets dealing with the financing of "imperative" plan targets. The budgets have to be approved by the Ministerial Council; and the Technical Secretariat is then charged with assuring their financing — from the state budget for extraordinary expenditures, from sales of development bonds to the banking systems and other institutions, from the proceeds of foreign loans or by the National Development Bank (and eventually the Economic Development Fund).[168] The "imperative" projects of the plan include not only investment by the public sector but also private investment in branches or projects considered of major importance for widening bottlenecks, providing the basis for further industrialization, etc.

Other state activity to promote industrialization includes the partial financing of the Institute of Industrial Research, which provides entrepreneurs with technical advice.

Finally, as mentioned in Chapter III, the planning machinery in Portugal has been reorganized in connexion with the preparation of the Interim Plan covering the years 1965-1967 and the Third Development Plan, which is to follow. A feature of the new system will be the attempt to organize a much greater participation in the planning process of industrialists and technicians from the private sector. About 90 industrial groups (embracing more than 400 individuals and enterprises) have been set up to produce preliminary reports for the preparation of the new plans; and it is hoped that, as in other countries, this process will result in a wider appreciation of the possibilities of development and more active co-operation of the private sector in plan implementation.

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[162] "Internal financial stability is a particularly acute problem in developing countries . . . thus there is a great need to use adequate financial and monetary policies. Among these, budgetary balance is the fundamental condition for carrying out expansion with stability." (Second Plan, Vol. I, section VII, p. 164.)

[163] Cf. Part 1 of the SURVEY for 1963, Chapter III, sections 3(b) and 5(b).

[164] These bonds (certificados de aforro) are issued at 70 escudos each and are redeemable after ten years at 100 escudos. Since no interest is paid in the meantime, this corresponds to an effective rate of interest of 3.6 per cent per annum. The success of these bonds has been only moderate. (See V. X. Pintado, *Structure and Growth of the Portuguese Economy*, European Free Trade Association, Geneva, July 1964. pp. 194-195.)

[165] Law 2094 of 25 November 1958 empowers the State to coordinate capital issues and credit operations, whether the investments concerned are in projects included in the Development Plan or are independent of it. In the application of the law, Decree-Law No. 42187 of 1 March 1959 stated that, during the period of execution of the Second Plan, all enterprises must submit for approval by the State all issues of shares or bonds of 10 million escudos or more.

[166] See E. Dores, *Estudos de Economia Aplicada*, No. 4, "O desenvolvimento da economia portuguesa e o Plano 1959-1964" (Associação Industrial Portuguesa, Lisbon 1959).

[167] The National Development Bank took over the functions and resources of the National Development Fund, an institution created for the allocation of Marshall Aid counterpart fund swhich acted mainly as a financial agent for the yearly investment programmes of the First Development Plan.

[168] Sometimes the state also takes up part of the share capital of an enterprise, provides technical assistance and participates in its management. Nearly one-quarter of total investment under the plan is financed from the budget.

Conclusions

It is difficult to assess the effectiveness of the measures so far used to promote plan implementation in Portugal, particularly in view of the relative modesty of the plan targets. The ratio of gross fixed investment to gross national product has risen steadily, from 15 per cent in 1956 to 18 per cent in 1961. Bottlenecks in electric power and steel supplies have been widened by investment undertaken in accordance with the plans, and during the first five years of the Second Plan (that is, between 1958 and 1963) the average annual rate of growth of GNP was 6.4 per cent — against 3.8 per cent between 1950 and 1958 — thus considerably exceeding the plan target. But it is too early to assess how far this was the result of policies connected with the plan. Certainly there have been delays in the execution of some of the " imperative " investment targets of the Second Plan, as was the case with the First Plan also; and this is the more regrettable since one of the lagging sectors — agriculture — is one in which the investment effort is most necessary. However, the Portuguese authorities have stated that the delays which have occurred in the execution of these investment plans have never been caused by lack of financial means; physical, and in some cases administrative, bottlenecks have been at the root of the trouble. The fact that the gap between planned and actual expenditure on imperative projects has gradually closed — from 27 per cent in 1959 to 11 per cent in 1960 and 4 per cent in 1961 — and that by 1963 actual expenditure exceeded the plan by 5 per cent suggests that the bottlenecks are being eliminated.

(d) Spain

Since 1964 is only the first year of the Economic and Social Development Plan, there is as yet little experience of plan implementation in Spain. While a number of agencies which have planning responsibilities are of long standing (though their responsibilities and functions have often been enlarged) others, such as the Plan Commissariat, have been specially created. An important preparatory step in the planning of the Spanish economy was the series of reforms undertaken after the publication of the report of the IBRD mission in 1962, a report which was designed to pave the way for the plan and to create the necessary environment and conditions for its implementation. These reforms covered virtually the whole field of economic activity, including credit and fiscal policy, the banking system and capital market, policy towards public and private industry and agriculture, and the régime applicable to foreign trade and private foreign capital.[169]

A key role in the implementation of plan targets and objectives is played by the Plan Commissariat and by the Delegate Commission of Economic Affairs, which were described in Chapter III. The Plan Commissioner is the official responsible not only for preparation of the plan but also for its execution and the co-ordination of the actions of the various departments and public agencies involved in plan implementation. He keeps in touch with individual ministries and with the Delegate Commission and reports annually to the latter on plan implementation, putting forward, as appropriate, proposals for action. Since the public expenditure targets in the plan are mandatory, the Delegate Commission has special responsibility (through the Plan Commissioner) for ensuring the co-ordination and execution of public investment projects included in the plan.

Annual public investment programmes are drawn up within the framework of the budget. The plan document gives considerable detail for investment by the public sector in each year, together with the agency responsible for executing each project. However, these programmes are subject to review in the light of the availability of finance, in particular from abroad, which is reviewed annually with the Ministry of Finance. (Half of the planned increase in public investment in 1964 depends on external finance.)

The Government can also exert direct influence over non-budgetary public investment expenditure, through its control over the publicly-owned sector of the economy (in particular the National Institute for Industry and the railways). The Commissariat has to draw up preliminary reports for the Delegate Commission before the investment projects of INI enterprises (whether financed by official credit, budgetary advances, or from their own funds) are approved, and the Delegate Commission has to give its agreement to the closure of existing INI enterprises or the establishment of new lines of production.

The distribution of official credit is perhaps the most important instrument in the hands of the authorities for influencing the private sector. Proposals concerning the amount and terms of the credit to be given to the official credit institutions are channelled through the Ministry of Finance, and the final decisions on the total volume, and on which sectors are to receive priority, are made annually by the Delegate Commission. In order to encourage the rationalization and modernization of key sectors, including agriculture, different rates of interest may be charged to different sectors, on a selective basis. In general, the monetary reforms carried through, and the policies pursued since 1958, have sought to channel public saving into the private sector through the official credit institutions while, at the same time, encouraging the development of a money and capital market.

Fiscal policy is also used to support the plan, but is only one of a number of other instruments which the authorities have at their disposal for influencing the private sector. As noted in a recent SURVEY, fiscal relief, in the form of exemption from income tax or customs duty or of of investment allowances, is granted to encourage the merger of industrial units or greater co-operation between them, to industries of national interest, to enterprises set up in designated growth areas and, in certain cases, to encourage exports.[170] The Delegate Commission is responsible for laying down the basic rules governing such preferential treatment.

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[169] For further information, see Part 1 of the SURVEY for 1963, Chapter III, especially sections 2 and 5.

Other means of influencing private investment are the controls relating to the minimum size of new industrial units and to the participation of foreign capital exceeding 50 per cent in the few sectors where this control still remains in force. However, in the former case, the intention is not to be unduly restrictive but to ensure a minimum level of technical efficiency in new enterprises; and, subject to considerations of national security, private direct foreign investment is explicitly encouraged. More generally, the policy towards the private sector of industry and services consists of sweeping away the many restrictions that formerly existed and exposing it to the forces of competition, in combination with incentives for modernization and efficiency and for investment in sectors and geographical areas which are given priority in the plan. In the agricultural sector, credit and other measures (including a major programme of public investment) for encouraging improvements in productivity and crop patterns and for overcoming the problem of small and fragmented farms are envisaged; but these policies scarcely touch upon another aspect of land reform and resettlement — the existence of large inefficient holdings.

The Plan law provides for the discriminatory use of such general policy instruments as subsidies, tax and customs exemptions and official credit allocations, in order to raise living standards in the backward regions. As noted in Chapter II, two industrial promotion zones and five industrial development zones have been created in accordance with the Plan law. Among other advantages, new industries in these areas will receive subsidies from the public investment programme of up to 20 per cent (in the promotion zones) or 10 per cent (in development zones) of their investments. Finally, development areas (polígones) have been created in order to remedy industrial congestion or to raise incomes in depressed localities. Their number (30 so far) is not limited by law, and these areas are not eligible for public subsidies.[171]

Conclusions

Institutionally, and in other ways, the Spanish economy has already experienced a considerable transformation as a result of the various measures taken prior to and in readiness for the 1964-67 plan, though much of the new machinery has only recently been established and its efficiency cannot yet be judged. The complete reversal of the internal and external financial situation since the stabilization measures of 1959-60 (notwithstanding the rather sharp rise in the price level and in the volume of imports that has occurred since late 1962),[172] and, in particular, the active interest displayed by private foreign capital, has meant that Spain has embarked on the first year of its development plan in highly favourable circumstances. Spain has already contracted loans or commitments for a number of projects in such basic sectors as the railways, roads, and electricity, and the response of private capital to the opportunities offered by Spanish industry has so far been encouraging. A more critical sector, however, may turn out to be that of agriculture, where already in 1963 the inelasticity of the domestic supplies of several important foodstuffs had unfavourable repercussions on imports and on the domestic price level, and where a satisfactory rate of transformation may prove more difficult to achieve.

In general, the necessary institutional machinery for implementing the plan now exists in Spain and success or failure will depend to a large extent on the ability of the responsible authorities to co-ordinate the efforts of the public sector and to use efficiently the instruments now at its disposal for influencing the activities of the private sector.

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[170] In this connexion, special mention should be made of the so-called "concerted action agreements" provided for in the Plan law, which give fiscal and credit advantages to enterprises which undertake to fulfil certain commitments with respect to production, exports, employment, renewal of equipment, etc. These agreements, drawn up by the appropriate ministry and the Ministry of Finance, and subject to approval by the Delegate Commission, are similar to the "quasi-contract" in France. A recent example of a concerted agreement (see *Boletín oficial del Estado*, 28 August 1964) is that covering the iron and steel industry which, in return for commitments concerning rationalization and the extension of capacity, is to receive official credit on special conditions and exemption from various taxes. (Participation in such agreements is compulsory for public enterprises.)

[171] See also the SURVEY for 1963, Part 1, Chapter III, p. 17. By August 1964, 626 applications for new industries in the seven industrial promotion or development zones had been approved by the Delegate Commission of Economic Affairs. The investments involved are estimated to provide employment for some 67,000 people.

[172] For an appraisal of the significance of price movements in 1962 and 1963, see Part 1 of the SURVEY for 1963, Chapter III, pp. 24-25.

3. CONCLUSIONS

In the less industrialized countries of southern Europe, the problems of planning are inherently more difficult than those experienced in countries already industrialized. In each case, the plan objectives of the former countries require that the rate of domestic saving be raised to a relatively high level, despite relatively low per capita incomes. The conflict between the desirability of improving social justice by raising the incomes of the less favoured regions or social groups and of the high level of investment required for a satisfactory rate of economic growth is likely to be more acute than in the industrialized countries. Short-term internal and external stability is likely to be more difficult to maintain, despite any margin of safety afforded by the possible availability of external funds, because of such factors as the degree of structural change that has to be achieved and the dangers inherent in the fluctuating levels of agricultural output and exports.

Yet the institutions of these countries are also less well adapted than those of the industrialized countries for the promotion of rapid growth and structural change within a predominantly private-enterprise economy, at a time when their economies are being progressively "integrated" with the industrialized world. Taxation systems need to be revised, the mechanism for channelling savings to productive investments improved, land reforms devised and implemented, and tariff structures and systems of import control gradually adjusted in the light of the declared intentions of the governments concerned to adapt their economies to a " liberal " international trading system.

Effective government action in all these countries is essential for bringing about such institutional reforms, for extending the infrastructure on which expansion of private industry must be based and, in general, for creating a suitable climate for economic expansion. The efficient co-ordination of activities of the relatively large public sector (in the widest sense of the term) is likewise essential. But lack of experience in economic planning and administration — in some cases also lack of adequate data on the resources, and the interrelationships, of the economy — and a scarcity of highly trained administrators and technicians are other handicaps to be overcome; another is the relative weakness of entrepreneurial initiative in the private sector.

The four national plans reviewed above all recognize the need to raise the domestic savings ratio and also reveal intentions to supplement domestic investment resources by foreign borrowing. No southern European country has so far received firm assurances — either from foreign governments or from international institutions — that official grants and/or loans will be available at the right time and in the amount planned. Without such assurances or the prospect of an inflow of private capital on a sufficient scale — and hence without a correspondingly clear idea of the prospective volume of the resources that will be available during the plan period — the task of national planning is rendered more difficult.[172] Furthermore, prospective lenders frequently wish that their financial assistance be tied to specific projects, rather than to the general financing of development plans, and the amount and terms of such aid is often not free of political considerations. (On the other hand, it must be recognized that the difficulties of assuring adequate finance for specific projects often have their origin in the recipient countries — for example, the shortage of, or delays in drawing up, well-planned and viable schemes.) The Turkish and Spanish plans are the most detailed in their recommendations for the budgetary, fiscal and credit measures required to increase domestic savings and channel them to productive uses; but in all the countries there are indications of an improved understanding of the problems to be solved and of the measures which might provide solutions.

The need to stimulate greater private initiative in industry, or to replace it by government action if necessary, is also generally appreciated. In this respect the preparation of a plan and the encouragement of widespread discussion of the targets and measures for their implementation should itself be of some help. In addition, all countries have various ways of offering selective fiscal and other incentives to private entrepreneurs (for stimulating investment in key sectors or for promoting exports, for example). However, it is not only among industrialists and other producers that an understanding of the actions needed for promoting rapid development, and co-operation with governments in carrying them out, needs to be stimulated. Again, the publicizing of the plan objectives and of the measures needed to attain them can help; but it will also be a vital, if difficult, task in all countries to maintain the delicate balance between measures to further the largely conflicting objectives of raising the relative levels of the lowest living standards, providing incentives for individual initiative and enterprise and both enlarging the supply and economizing in the use of such scarce resources as capital and professional and managerial skills.

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[172] For example, aid through the Consortium for Turkey (which has the largest external financing requirements) has been provided on an annual basis; but the Turkish planning authorities are uncertain for much of the year as to how much they can count on. (See the SURVEY for 1963, Part 1, Chapter III, p. 23.)

CHAPTER VI

PLAN IMPLEMENTATION IN EASTERN EUROPE AND THE SOVIET UNION[1]

1. THE CURRENT ISSUES — CENTRALIZED VERSUS DECENTRALIZED ECONOMIC MANAGEMENT

It was noted already in Chapter I that it is hardly possible to distinguish "instruments of plan implementation" in the centrally planned economies from the general system of organization and management of the economy. But it is impossible, within the compass of this study, to give a complete and detailed picture of that system in each of the centrally planned economies — the more so since the details of the national systems today differ considerably, and far more than in the years up to the mid-1950s. The purpose of this chapter is, nevertheless, to give a summary description of the main features of the system common to all the countries under study, together with some indication of significant national differences, of the historical trend of development and of what appear to be the current directions of change and their economic motivation.

In most of these countries the years since about 1955 have been a period of lively discussion among economists and planners of the problems of economic planning and management, and of fairly continuous experiment in one or another part of this field. This process has not come to an end; and all descriptions of current methods in this chapter must thus be seen as indicators of the stage reached today in a process of change. The current tendencies are fairly clear; but future developments cannot yet be foreseen in detail.

Most of the discussion in recent years has turned on the choice between "centralized" and "decentralized" planning and management. No clearcut agreement has been reached even on the exact sense of these terms. However, "centralization" is generally interpreted as a concentration of all decision-making at the centre and the transmittal of the decisions by means of commands from the central authorities through various hierarchical channels to the "productive" enterprise.[2] Admittedly, these commands were supplemented by material incentives — without, however, leaving much discretion to the enterprise. The tendency to decentralize implies a greater reliance on automatic mechanisms in micro-economic decision-making and on incentives to guide those decisions in accordance with the broad intentions of the central planner. It should be added that the significance of decentralization is different and its scope much wider than in "plan building". This is so because of the use that can be made of automatic mechanisms at the enterprise level in order to regulate the day-to-day decisions of management, particularly with regard to assortment, the timing of investments and output and stock policies (see section 4 below).

Inevitably the nature of the management chains has also been under discussion — the question of the extent of devolution to regional bodies, on the one hand, or to branch authorities on the other; the respective roles in the decision-making process to be played by industrial ministries, "trusts" or associations of enterprises (both horizontal and vertical) and individual enterprises; the role of trade organizations — whether they should be basically "distributors" of industry's products or "customers" who have to be satisfied. In both fields numerous experiments have been made in recent years.

To some extent, of course, decentralized decision-making, and the problem of devising the right pressures and incentives to guide those decisions so that they further the achievement of the central objectives of economic policy, have always existed. Neither perfect knowledge of the existing pattern of available productive capacity and other resources and their distribution nor perfect ability to predict technological developments, the weather or the response of human beings to economic and other stimuli has ever been vouchsafed to a national planning authority. It has never been possible to ensure the feasibility of every macro-economic target in the national plan: still less to disaggregate the targets in such a way as to give a perfectly consistent and feasible set of directives on every detail of output, material and labour input, investment, introduction of new technology, etc., to each individual enterprise. Even when such very comprehensive sets of directives have been issued, it has been recognized that they might in practice be, to some extent, mutually inconsistent, and that some indication of relative priorities had therefore to be given — and made effective. Moreover, it was recognized at a fairly early stage that the administrator or manager with no scope for initiative and decision-making is less likely to be efficient and responsible, even in carrying out directives to reach certain clearly defined ends, than one who has such scope, and the opportunity to earn rewards for success resulting from his own efforts and good judgement.

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[1] The secretariat has to acknowledge the very considerable help received, in the form of both information and ideas useful for the preparation of this chapter, from officials of several of the countries here under consideration — notably from Czechoslovakia, Hungary and Poland. However, it must be acknowledged that the descriptions given here of the latest developments in the countries of the region are seriously incomplete, partly because so many differing experiments are now in process that neither personnel nor publication space have been available to cover them adequately.

[2] However, in the traditional sphere of publicly-provided services, the issues — the degree of freedom to be given to local authorities to raise revenue in their locality, the degree of responsibility for investment decisions to be given to them, the choice between central and local responsibility for current operation of local transport, cultural amenities, schools, hospitals, etc. — are not essentially different from those arising in predominantly market economies.

But the scope for initiative and genuine "management" at lower levels up to the mid-1950s was nevertheless relatively slight in all the countries under review, except in the sphere of bargaining with the central authorities for plan tasks (i.e. for "easy" production plan targets in relation to the means, for higher investment outlays, more manpower and/or a larger wage-fund).[3] It has indeed been argued, with some persuasiveness, that the practical possibility of offering a wide scope for decentralized decision-making depends to a considerable extent on the nature of the major objectives of economic policy. If, as was the case in most of the European centrally planned economies in the late 1940s and early 1950s, policy is directed towards achieving a very rapid transformation of the economic structure, if current cost calculations can be virtually no guide for long-run development plans (or if priorities involving an intense concentration of resources are determined on quite another basis), and if the transformation process is pushed ahead so fast that bottlenecks and tensions throughout the economy are inevitable, then it is equally inevitable that "commands" should replace "incentives" over a very wide field. It could be added that this may be still more inevitable if, simultaneously with — or even as a prelude to — the carrying out of an economic development policy calling for rapid and far-reaching changes in the structures of employment and output, society has to adjust also to a revolutionary transformation of political, social and property relationships.[4]

However, once maximum rates of economic expansion, maximum investment and rapid structural change begin to give way to concern with more balanced growth, with raising consumption levels (and maximizing consumers' satisfaction from any given share of total resources devoted to consumption) and with minimizing costs throughout the economy, more decentralized decision-making and greater reliance by the central government on incentives and indirect influence than on directives to subordinate bodies becomes not only more feasible but also more necessary. It could, indeed, be argued that the key to the choice of the balance between centralized and decentralized economic management is the priority attached, among short-term economic-policy objectives, to maximizing consumers' satisfaction and minimizing costs; and the latter objective is of more practical importance in this context: the higher the stage of economic development reached[5] and the greater the country's dependence on foreign trade.

In any centrally planned economy in which the authorities stop short of distributing all personal consumption in kind, at least one (and in any but a closed economy at least two) area of spontaneous demand forces has to be taken into account by the central authorities — expenditure out of personal disposable money income and export demand. It may be assumed that the authorities will, in general, prefer so to plan consumers' incomes and supplies that there is a reasonable equilibrium in the market for consumers' goods and services — no serious shortages in the shops or queues for particular goods; no large accumulation of unsaleable stocks of others, or of under-utilized production capacity. This situation can, in principle, be achieved *either* by fixing the pattern of supply of consumers' goods and services and so manipulating retail prices as to ensure that the market is cleared, *or* by determining the basis on which retail prices are to be established and by ensuring that changes in consumers' demand react rapidly via the price mechanism on the management of trading and producing enterprises, so as to induce the necessary adaptation of the pattern of supply. Freedom to choose between these two alternatives (which are not mutually exclusive) is not absolute; but it is rather wide. Either choice will involve some decentralization of decisions on pricing or on production patterns, or some degree of both. The greater the importance attached to narrowing the discrepancies in the margins between production costs (however defined) and realized prices, the stronger is the case for a management system that will minimize the time-lag in adapting the pattern of production to that of demand. In the field of export trade, and production for export, similar considerations apply, although the use of price adjustments to match demand to supply raises special problems related to price elasticities in foreign markets.

When the objective of satisfying any given pattern of final demand (whatever the relative importance of the "spontaneous" and "planned" elements in total final demand may be) at minimum cost is also given a significant priority, the question again arises of centralized versus decentralized decisions, and of directives versus incentives. Micro-economic efficiency should be increased if the director of an enterprise has both freedom to choose his pattern of material and other inputs and an incentive to minimize his costs for any given level and pattern of output. But for this to be conducive also to a macro-economically efficient use of resources requires, further, that the relative prices of inputs be appropriate for this purpose.

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[3] Also, of course, considerable scope existed for initiative in reconciling, or finding a way of satisfying, the most beneficial (to the enterprise) of the frequently inconsistent directives received.

[4] See, *inter alia*, O. Lange, *The Political Economy of Socialism*, Warsaw 1957, on the analogy of the conditions of the late 1940s and early 1950s in eastern Europe and the Soviet Union with those of any "war economy"; and J. Pajestka, "Certain Problems of Economic Planning in Poland", *Weltwirtschaftliches Archiv*, 1964, Heft. 1.

[5] Since efficient production of industries with a very heterogeneous pattern of output (such as engineering and manufacturing of most consumers' goods) is virtually impossible on the basis of central directives alone.

Thus the question of the most suitable system of management and "plan implementation" in a centrally planned economy cannot be divorced from that of the major policy objectives and their relative priorities. It involves not only questions of the structure of the management chain from the central departments of government out to the individual enterprise, of the degree of responsibility for decision-making to be exercised at each level, and of the incentives for "efficient" management to be offered at each level; but, more fundamentally, it also raises questions of the criteria for determining current policies and related plan targets, of the criteria for measuring success in plan implementation — or simply "success" or "efficiency" of management — at each level, of the role of the price mechanism and of the criteria for price-fixing.

It was therefore no mere coincidence that the move towards decentralization and more reliance on incentives at the expense of central directives began at about the same time as the governments concerned began to relax their previous concentration of resources on investment and on the extension of heavy industrial capacity in favour of more attention to consumers' needs; both directly, by giving a somewhat higher priority to assuring current inputs to the consumer-goods industries and agriculture and greater incentives to increase farm output, and indirectly, by changing the structure of investment towards projects offering earlier benefits to the consumer. And this increasing concern with the "quality", as distinct from the pace, of economic expansion was reinforced — to some extent even preceded — by increasing concern with micro-economic efficiency and minimizing of costs at the enterprise level as labour reserves diminished (or were virtually exhausted, in Czechoslovakia, eastern Germany and, more recently, Hungary) and a higher effective priority for the increase of living standards contributed to an increasing appreciation of the real scarcity of capital. Concern with "cost" on the macro-economic level was similarly stimulated, one of its earliest practical manifestations being the work started in Hungary in the early 1950s on the optimization of foreign trade.[6]

As optimization criteria have begun to play a larger part in the development of the theory, and to some extent the practice, of plan-building in the eastern European countries, discussion of centralization versus decentralization of planning and management has proceeded to the point of raising the basic questions whether the attainment of the optimum pattern of development in practice does not also require the re-introduction of actual or simulated market forces over a wide field and the use wherever possible of indirect measures to affect the choices confronting managers at every stage of the productive process, in preference to directives and controls.

It is increasingly recognized that there is no basic incompatibility between a socialist economy based on public ownership and the use of automatic mechanisms as demonstrated by the Yugoslav example (see Chapter VII). The discussion turns, therefore, on the best compromise between central commands and decentralized decision-making, and on the nature of the latter.

One participant in the lively discussion among Polish economists in recent years has put the question in terms of the balance between control through "parameters" as opposed to control through "statutes" or directives.[7] Under complete decentralization "the apparatus which implements the plan (i.e. at levels other than the central authority) is directed solely by means of parameters" (prices, interest rates, tax rates, etc.): under complete centralization of management "the apparatus which implements the plan is directed solely . . . by means of statutes" (e.g. directives on quantities of particular inputs to be used or commodities to be produced). Under the latter system "the parameters are generally frozen . . . and the corresponding magnitudes lose their parametric character": prices, for example, "cease to play the role of instruments of operative management of the economy" and become merely "tools of aggregation". In the completely centralized model, the author further suggests, incentives for enterprise management have to be "based on recognition" — in other terms, not on "the fulfilment of indices strictly defined and expressed in quantitative terms (as, for example, profit or gross output) but . . . on the basis of a general evaluation of the enterprise's performance as seen by a higher authority":[8] in the pure decentralized model "there appears one incentive (e.g. profit maximization) and the operative management is effected via the influence of changes in the magnitudes of the parameters on this incentive".

The possibility of reliance only on "management through parameters" is generally rejected on the grounds that neither planners' grasp of the behaviour relationships in the economy nor the possibility of devising instruments of government influence which will act with precision are yet sufficiently developed. Therefore, it is argued, reliance on "management through parameters" will result in a greater waste and misdirection of resources — in the light of the objectives of policy — than is tolerable. The related point is frequently made that one essential feature of a centrally planned economy is pressure of demand on resources which inevitably produces a "weak buyers' market" and that this reduces the efficiency of the use of prices as control parameters.[9] Finally, it is generally agreed that the need for major structural change, as long as it persists, must involve at least some direct central controls as well as the use of indirect influence and incentives.

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[6] See the SURVEY for 1954, Chapter V, section 4 and Appendix; and section 7 of Chapter IV above.

[7] J. Zielinski, "Centralization and Decentralization in Decision Making", *Economics of Planning*, Oslo, December 1963. See also W. Brus, *Ogolne problemy funkcjonowania gospodarki socjalistycnej*, Warsaw 1961; O. Lange, *Niektóre zagadnienia centralizccji i decentralizacji w zarzadzanin*, Warsaw 1962.

[8] It could be added that the linking of premia or other incentives to a multiplicity of the former type of indicator still amounts essentially to a system "based on recognition" *unless* a rational and effective weighting of each indicator ("in strictly defined and quantitative terms") can be devised for purposes of measuring success and earning rewards.

[9] See W. Brus, *op. cit.*, pp. 330-335.

It may be noted at this point that, theoretically, there is no reason to tie "management by parameters" to the use of "classical" optimization criteria in planning. Thus, the government may, in a planned economy, as in a market economy, decide for non-economic reasons to protect some relatively high cost branch of domestic production rather than to rely on imports of the commodity in question: it may decide to try to limit consumption of alcohol by taxation, and to sell, say, children's shoes below cost. However, the more numerous the departures from optimal planning criteria the greater are likely to be the practical difficulties of establishing a set of effective parameters to influence management.

It is almost universally recognized that a thorough reform of centrally fixed prices is a pre-condition for "management by parameters" in which profit maximization by enterprises is put on a rational basis. Moreover, many economists of the region consider that the system of central price-fixing should leave room, in some fields,[10] for an "operational" price system which would permit the use of market pressures on enterprise managements in such a way that their pursuit of profit (or any other measure of "success") will lead them into operations which further plan objectives.[11] The main argument against a large measure of price flexibility is that, in countries at a relatively early stage of development and with strictly controlled imports, enterprises in newly developed branches of industry may well be in the position of monopolies; and, even in the more developed countries of the region, the recent changes in industrial organization described in sections 2 and 3 are tending to produce monopoly or oligopoly conditions in many branches of production.

In the search for a more efficient system of plan implementation, greater interest has recently been taken also in the problem of easing communication between the central authorities and the peripheral bodies ultimately responsible for carrying out the plans, so as to minimize misunderstanding and friction when directives have to be used. Moreover, the continuing scarcity of highly competent managerial staff in several countries has also heightened the interest of the central authorities in the problem of devising an institutional structure that will give real managerial responsibility to those capable of exercising it intelligently and effectively, while minimizing the burdens on weaker shoulders.

Finally, it has to be borne in mind that political and ideological considerations, as well as those of economic efficiency, have so far played — and will probably continue to play — a significant part in determining the techniques of economic management which will be acceptable to a particular government at a given time. Both political (or ideological) and economic considerations motivated the trend towards decentralization that began in the mid-1950s: both enter today into the discussions of the role that should be played by market forces and the price mechanism as well as, more obviously, into decisions on such questions as the operative role to be played by the organs of the ruling political party as supplements to the normal administrative and management institutions.

Although the discussions summarized above are increasingly influencing the development of the actual systems of planning and management in the countries of eastern Europe and the Soviet Union, none of these countries has yet adopted a "system" or "model" combining in a rational manner the most efficient means for pursuing the major current objectives of economic policy. No scheme for reform produced by the professional planners and economists has ever yet been carried out in every detail. As in any other economy, the institutional framework and the techniques used at any time to implement government policy reflect historical development, political and social principles, improvisations to deal with immediately pressing problems, and a variety of other factors as much as, or even more than, the preferences of the professional planners and administrators concerning current policy objectives.

Contradictions and inconsistencies of detail thus abound. They have not prevented the achievement of very high rates of economic expansion in all the countries concerned during the postwar period, and not merely high rates of economic growth but also high returns (in terms of growth) to inputs of labour and capital during the period.[12] However, the manifest inability of the plan-executing machinery to respond to the requirements of the economy combined with other factors to bring expansion to a halt in Czechoslovakia in 1962 and 1963 and to reduce rates of economic growth in some other industrialized countries of the area; and these recent developments have lent new urgency to the perennial question of the desirable directions of reform.

In the second section of this chapter a brief description is given of the main institutions of economic planning and management in the countries of eastern Europe and the Soviet Union. The third section discusses the annual plan, the extent to which the targets of the national plan are disaggregated through subordinate bodies, out to the enterprise, farm, etc., and the basic systems of control and incentive influencing plan fulfilment. Section 4 is devoted to the problems of management and incentive at the enterprise level and section 5 to a similar review of the collective farms.

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[10] Such as consumers' goods, highly differentiated machinery and inputs and, more generally, production for export.

[11] For discussions in other countries on lines broadly similar to those of the debate in Poland, see *Politica Economica*, 1963-1964; the discussion initiated in the Soviet Union by Professor Liberman's proposals, reviewed in the SURVEY for 1962, Part 1, Chapter I, section 5; the account of a discussion among Soviet economists on pricing principles published in *Ekonomicheskaya gazeta*, 9 March 1963; P. Kunin, *Novo Vrema*, No. 12, December 1963; and, for eastern Germany, *Deutsche Finanzwirtschaft*, No. 22, 1964.

[12] See *Some Factors in Economic Growth in Europe during the 1950s*, SURVEY for 1961, Part 2.

2. THE INSTITUTIONAL FRAMEWORK

The institutions of economic planning and management in the countries of eastern Europe and the Soviet Union fall into four main groups — central agencies; sectoral and regional agencies fitting into an hierarchy of planning and administering bodies running from the Council of Ministers out to the individual enterprise or minor local authority; non-hierarchical institutional arrangements, such as the price and wage systems and the financial network; and various agencies of statistical, accounting and other forms of control. It must be remembered that, to a very large extent, the organs of the ruling party in each country supplement the normal administrative machinery. Individual ministries and other bodies subordinated to the Council of Ministers have their equivalents in the organs of the Central Committee of the party. Subordinate party bodies at the regional, local, enterprise, etc. level have responsibilities for furthering the implementation of government policies and plans. In this study, attention is concentrated on the formal machinery of planning and plan implementation; but the influence of party organizations at every stage is very real and pervasive, and the question of the extent to which they do, or should, intervene to influence the decisions of those responsible in the formal institutions of management is clearly of great practical significance.

(a) The central institutions and the hierarchy of planning and managing organs in the Soviet Union

In the Soviet Union the choice of the exact compromise between the organization of economic planning and management on a basically sectoral or basically territorial basis is clearly more important and more difficult than in the other countries of the area, simply because of the great size of the Soviet Union. The actual balance has been changed several times since the October Revolution, but only the broad outlines of recent changes and the main reasons for them are reviewed here.[13]

The situation in 1956 may be summarized as follows: under the Council of Ministers of the Soviet Union there existed two major central planning agencies — the State Planning Commission (*Gosplan*) concerned with long-term planning and the State Economic Commission (*Gosekonomkomissia*) responsible for short-term plans. Various other functional bodies — the Central Statistical Office, *Gostekhnika* (responsible for introducing new techniques), etc. — were directly subordinated to the Council of Ministers. Industry and construction were organized essentially on a "ministerial" basis; some thirty ministries, with separate functional and branch departments (*glavki*) being responsible for the administration of their subordinate enterprises — establishing or approving their individual output plans, distributing investment funds to them, controlling their use of labour and materials, etc.[14] The Ministries had their own supply and disposal organizations, controlling material supplies to their enterprises and deliveries by them to other branches (or to other enterprises in the same branch). Some enterprises were subordinated directly to the appropriate all-Union Ministry and/or *glavka*; in some branches intermediate industrial bodies (Trusts and other forms of association of enterprises) existed; in other cases some of the powers of the all-Union Ministry were exercised through corresponding Ministries of the Union Republics. Minor branches of industry — usually supplying a local market and using local materials — were under Union Republican or local control (see below). Several specialized ministries existed, responsible for construction within a particular industrial branch (e.g. coal mining), and were all supervised by a State Committee for Construction directly subordinated to the Council of Ministers. Industrial co-operatives were subject directly to local (*oblast*) authorities, with an all-Union body to exercise general supervision.

The planning agencies had various co-ordinating responsibilities, though formally little power to overrule a ministry; disputes on major questions had to be resolved by the Council of Ministers. However, the planning agencies were responsible for the allocation to the industrial ministries of a considerable range of fuels and materials; most other materials were controlled by the producing ministries and some minor materials were either distributed by local authorities or traded among enterprises without control by any superior body.

In Soviet agriculture the Ministry of Agriculture[15] and Ministry of Procurements and their local agencies were responsible for the state and collective farms; the machine-tractor stations (MTS), up to the time of their abolition in 1958, had considerable responsibilities for influencing the farms; the local organs have also had more specific responsibilities in this sector than in most others.

In the field of trade, the all-Union Ministry of Internal Trade controlled the distribution of major consumers' goods at least out to the level of the Republic, and for some also within the individual Republics. Republican ministries also had significant allocating responsibilities within their areas, both for goods received from outside and for some part of local production. Local authorities also distributed some supplies from local production on their own responsibility. Most shops were, and are, operated by co-operative organizations, by local authorities or by republican or all-Union trade organizations: a few ministries controlled their own specialized shops. Local authorities were responsible also for many consumer services.

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[13] In this section the responsibilities of the various bodies are indicated only in general terms. For more concrete examples of the degree and nature of detailed controls and management responsibilities at each level, see the subsequent sections of this chapter.

[14] The number of Ministries had fluctuated considerably in earlier years.

[15] At some times, two separate ministries — one for the state farms and one for the collective farms and machine-tractor stations (MTS).

Foreign trade was, and is, the responsibility of the all-Union Ministry of that name, operating through the foreign trade corporations, each of which has a monopoly of import or export trade — or more usually both — in the commodities in which it deals.

Finally, the organization of transport was, and is, little different from that in many market economies with nationalized and locally-owned transport services. The same applies to all those services (health, education, sanitation, etc.) which are publicly provided in most European countries.

The foregoing is no more than an oversimplified summary of the pre-1957 Soviet system; exceptions to the general lines of demarcation existed, as did instances of duplicate, or conflicting, lines of responsibility. A major characteristic of the system was its basically "sectoral" nature. Planning and management institutions existed at the Republican and lower levels, but their responsibilities seldom went beyond the management of small-scale local industrial and construction enterprises, trade, transport, etc., and their sphere of influence was much narrower than that of the ministries.

The main official criticisms of the pre-1957 system were directed at the autarkic tendencies of the industrial ministries. Continually strained material supplies had encouraged these ministries to create, so far as possible, their own production capacity for such supplies; one result was a multiplication of transport costs as enterprises subordinate to two or more different ministries, but producing virtually the same products, each shipped them to other enterprises of its ministry all over the country. Inadequate planning of regional development was another consequence of the relative weaknesses of regional authorities in relation to the all-Union ministries. Other disadvantages sprang from the concentration of authority over the major part of the industry of so vast a country at the headquarters in Moscow of sectoral ministries, subject to only rather weak co-ordination.

The 1957 reforms broadly replaced the "ministerial" system of planning and management by a "territorial" system. The industrial ministries were abolished,[16] and 106 regional economic councils (*sovnarkhozy*) were given control over nearly all major industrial and construction enterprises in their areas, minor local enterprises remaining under local (*oblast* or municipal) management. The change of system, as it affected the management of industry, is illustrated in Charts 1 and 2. All-Union ministries, or committees of the Council of Ministers, continued to be responsible for agriculture, transport and domestic and foreign trade and to exercise some centralized supervision over construction.

The *sovnarkhozy* were formally subordinated to the Republican Governments and only through them to the all-Union Council of Ministers. However, although the all-Union *Gosplan* had no formal authority over the *sovnarkhozy*, its duty of co-ordinating and amending the plans of the Union-Republican *Gosplans* (which performed the same function in relation to the *sovnarkhozy*), and its far-reaching powers to allocate supplies of materials and capital goods, gave it a very real supervisory power.[17] For consumers' goods, the all-Union Council of Ministers and Ministry of Trade together retained authority to allocate a substantial proportion of total supplies. Moreover, the finance available to the *sovnarkhozy* for various purposes (investment in total and by branch, wage payments, etc.) was largely determined by all-Union authorities.[18]

Notwithstanding the maintenance of considerable control over the operations of the *sovnarkhozy*, the Soviet authorities soon began to express almost as much concern over tendencies towards "regional autarky" as formerly about "ministerial autarky"; and corrective measures taken at an early stage included the requirement that *sovnarkhozy* give priority to the fulfilment of delivery obligations to users or consumers outside their own area. Within less than three years of the initial decentralization of industrial management to the *sovnarkhozy*, some recentralizing measures were taken: in 1960 a "super-*sovnarkhoz*", co-terminus with the Republic, was set up in those Union-Republics which had previously been divided into several *sovnarkhozy*.[19] In the following year similar bodies were set up for 17 major "economic zones" covering the whole country[20] and in 1962 the number of *sovnarkhozy* was reduced to 40 and their field of responsibility considerably restricted — virtually to industrial administration — by the setting up of new state committees (all-Union bodies) responsible for various areas of former *sovnarkhoz* responsibility.[21] This process was carried further in 1963 (see below).

Meanwhile, between 1957 and the present day, the all-Union planning bodies — *Gosplan*, *Gosekonomkomissia*, etc. — experienced various modifications, and even transformations, of structure and function, as regards both their planning and their plan-implementing responsibilities. *Gosekonomkomissia* was dismantled in 1957; by 1960 *Gosplan* had become responsible for current planning and, as indicated above, some important plan-implementing functions; and *Gosekonomsovet* was set up in that year to take over *Gosplan's* former responsibilities for long-term planning.

In 1963 a major reorganization of the central agencies resulted in the establishment of a new Supreme Council of the National Economy of the Soviet Union (VSNK)

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[16] Except the Ministries of Electric Power (abolished at the end of 1958) and of Medium Machine-Building.

[17] All goods subject to central allocation actually had to be sold through the agencies of the all-Union *Gosplan*, even in deals taking place within the same *sovnarkhozy*.

[18] For a more detailed description and assessment of the 1957 reforms, see the Survey for 1957, Chapter 1, section 6; and A. Efimov, *Perestroika upraveleniya promyshlennostyu i stroitelstvom v* SSSR, Moscow 1957.

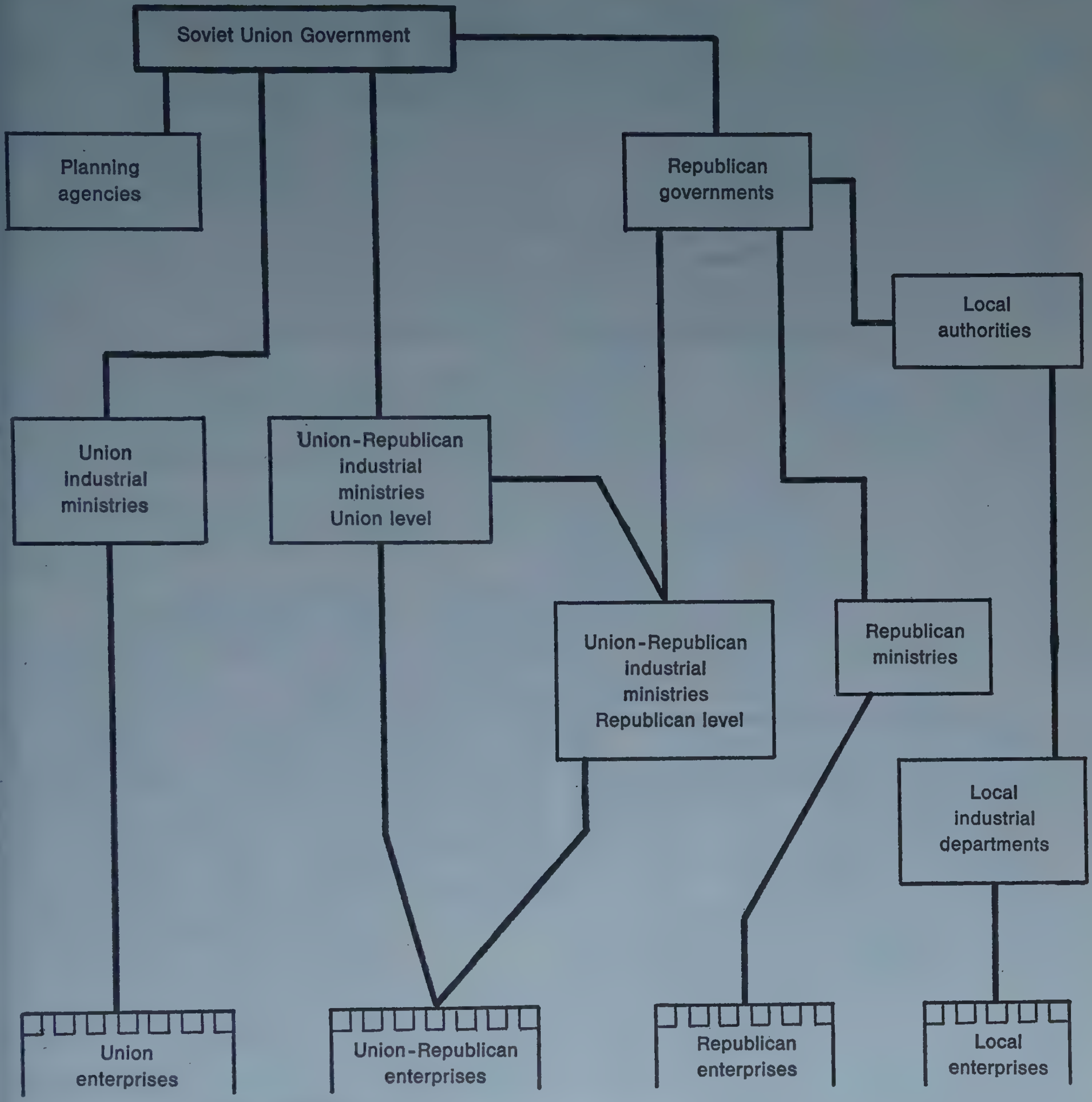
[19] In Uzbekhistan the *sovnarkhozy* were simply merged into one.

[20] Now 18: North western, Central, Volga-Vyatsk, Central Black Earth, Volga, North Caucasus, Urals, West Siberian, East Siberian, Far eastern, Donetsk-Dnieper, South western, Southern, Baltic, Transcaucasian, Central Asian, Kazakhstan, Byelorussia and Moldavia. They are responsible for planning rather than for management and are subordinated to the all-Union *Gosplan* (see Chart 3).

[21] In addition Party industrial-construction committees were set up in each *oblast* to watch over the implementation of central decisions at the local level.

CHART 1

Structure of planning and management of Soviet industry immediately before devolution to sovnarkhozy


Soviet Union Government
Planning agencies
Republican governments
Local authorities
Union industrial ministries
Union-Republican industrial ministries Union level
Union-Republican industrial ministries Republican level
Republican ministries
Local industrial departments
Union enterprises
Union-Republican enterprises
Republican enterprises
Local enterprises

Sources: A. Efimov, *Perestroika upravleniya promyshlennostyu i stroitelstvom v SSSR*, Moscow 1957, p. 15, as simplified by A. Nove, *The Soviet Economy*, London, 1961, p. 72.

under the Council of Ministers. This body is to co-ordinate the activities of three central planning and plan-implementing agencies — *Gosplan*, the *Sovnarkhoz SSSR* and *Gosstroi* — and also of those State Committees responsible for particular sectors of the economy which are directly subordinated to the Council of Ministers (see Chart 3 and below).

Gosplan is now responsible for both long-term and short-term planning on the national level (*Gosekonomsovet* has been abolished), and a number of state committees for particular branches of industry are subordinated to *Gosplan*.[22] These state committees are responsible for drafting plans for their industries (subject to later co-ordination by *Gosplan*), for administering research institutes, for design and technology, and for operating experimental enterprises. The *Gosplans* of the Union

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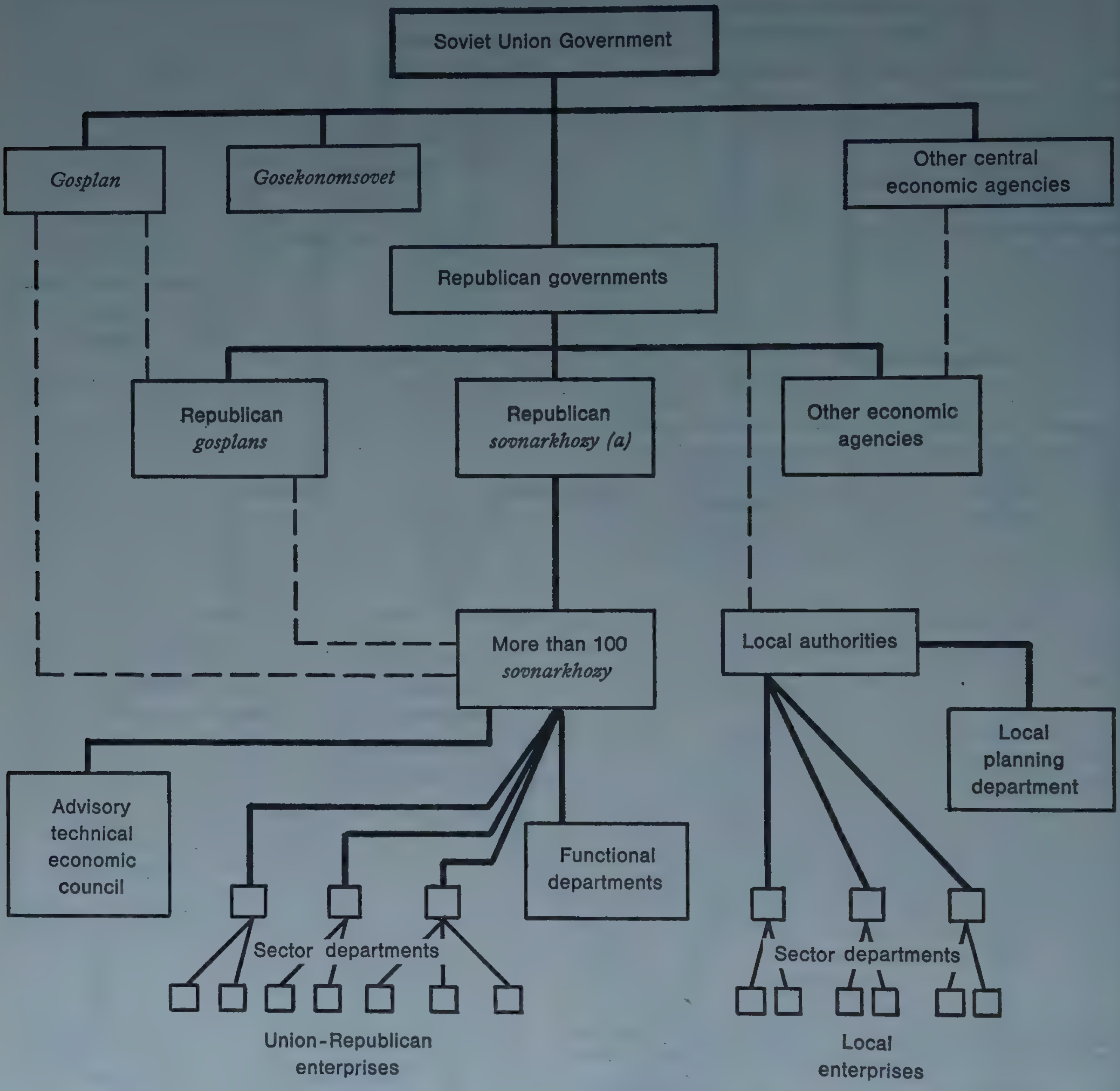
[22] See Chart 3, footnote *a*.

CHART 2

The "sovnarkhoz system" of planning and management in the Soviet Union, 1957 to 1960



Sources : As for Chart 1 — Efimov, pp. 46 and 52: Nove, p. 73.

NOTE. — For the sake of simplicity, the two remaining industrial ministries and their dependent enterprises are not shown (but see text).

The sector departments of the *sovnarkhozy* cover only industry (they have no responsibilities for agriculture, transport or retail trade).

Solid lines indicate formal subordination; broken lines indicate significant influence. The "influence" of Gosplan through its supply and disposals organization, in particular, could be very great indeed (see text).

[a] Only in some Republics and only from 1960 onwards.

Republics are under a dual subordination, to their own Councils of Ministers and to the all-Union *Gosplan*[23]; but "decisions adopted by the *Gosplan* of the USSR are obligatory for the *Gosplans* of all the Union Republics".[24]

The latter are responsible for putting forward comprehensive draft plans for their regions (covering branches for which there are state committees as well as others) to the all-Union *Gosplan*.

The *Sovnarkhoz SSSR* "has been established to guide the realization of the economic plans".[25] It has subsidiary boards dealing with the main industries[26] and has inherited *Gosplan's* former responsibilities for allocating key materials and equipment (as far as the Republican level and for some commodities within Republics also); and it has a special responsibility for supervising inter-Republic deliveries. There are also special boards responsible for fisheries, for deliveries of equipment to agriculture, for transport and for equipment for construction sites. Its powers of supervision over regional and sectoral bodies are wide, since "it is endowed with the right to alter the yearly plans of Union Republics, economic councils (*sovnarkhozy*), ministries and departments within the bounds of the indices envisaged by the state economic plan as a whole; to fix additional rates for output and deliveries and other indices of the plans; to adopt decisions concerning redistribution of material resources and to make alterations in plans of material and technical supply".[27]

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[23] From which also depend the planning committees for the 18 large economic regions (see footnote 20 above).

[24] A. Efimov (Director of the Economic Research Institute of *Gosplan*), in a paper presented to a United Nations Seminar on Planning Techniques for Developing Countries, Moscow July 1964.

[25] *Ibid.*

The all-Union *Gosstroi* has special responsibilities for supervising the carrying out of construction plans; and at present particularly for correcting the past undue dispersion of resources over too many sites and for ensuring concentration on projects of first priority. Its subsidiary committees cover installation and assembly work on construction sites; civil engineering; transport construction; the building materials industry; construction in Central Asia.

In the Union Republics, the *Gosplans*, Republican *sovnarkhozy* and construction ministries are now under joint subordination to the Union Republican Councils of Ministers and to the all-Union *Gosplan*, *Sovnarkhoz SSSR* or *Gosstroi*. Below the Union Republican level (in the larger Republics) are still 40 old-style *sovnarkhozy* (with powers now restricted to the administration of industrial enterprises in their regions under the direction of their higher authorities) and territorial *Gosstrois*. However, the central Asian Republics constitute a special case, the Central Asian *Sovnarkhoz* and Planning Committee being superior to the similar bodies on the level of the constituent Republics of the Central Asian region — Uzbekistan, Kirghizia, Turkmenia and Tadjikistan. As before, a part of industry is under independent Republican or lower level subordination.

A development of recent years, paralleled in eastern Europe also, has been the development of "the Soviet firm", amalgamating or grouping (either horizontally or vertically) several formerly separate enterprises. At the end of 1963 about 100 firms had come into existence grouping about 570 enterprises. "The legal and organizational status of this new form of management of socialist industry, has not yet been finally determined . . . What has already become evident is that the firms simplify economic management to a considerable extent . . . The development of this form of management of socialist industry has not yet been finally determined . . . What has already become evident is that the firms simplify economic management to a considerable extent . . . The development of this form of industrial management will enable us in some cases to do away with the industrial boards inside the *sovnarkhozy* and thus bring management closer to the production process."[28]

Successive modifications of the system of planning and management of agriculture have brought about a situation in which the all-Union Ministry of Agriculture has lost all planning and management functions, but continues as an agency mainly concerned with scientific research, training and education in agriculture. A Committee for State Procurements, directly subordinated to the Council of Ministers, is in effect the former Ministry of that name. At the Republican level Ministries of Agricultural Production and Procurements exist; but the main work of administration falls to the regional executive organs and territorial production boards depending on them, and to the local agencies of the Committee for State Procurements.[29]

In 1962, a parallel chain of co-ordinating and supervising bodies, the so-called Committees on Agriculture, were established, on which all the bodies (including the Party) dealing with problems pertaining to agriculture are represented. These committees do not have any administrative apparatus, but decisions taken are implemented by the competent administrative organs. The deputy chairman of the Council of Ministers acts as the head of the All-Union Committee on Agriculture; and the chief of the agricultural department of the Central Committee of the Party, the Chairman of the All-Union Association of "*Soyussel'khozteknika*", and the deputy chairman of the *Gosplan* are members of the Committee. The main function of the Committee is to organize the implementation of party and government directives concerning agriculture. Official declarations during the autumn of 1964 suggest, however, that some further modification, or reorganization, of agricultural management can be expected in the near future in connexion with the new specialization and intensification programmes for agricultural production.[30]

The main changes since 1956 in the institutional structure of planning and plan implementation are illustrated in Charts 1 to 3. The first shows only the structure of management of industry, and the second indicates the distribution of responsibility for other sectors and for "functional" controls (over supplies and disposals, labour supply, etc.) only in very summary form. An attempt at a somewhat more comprehensive picture is shown in Chart 3. A comparison of those charts nevertheless indicates the very considerable change from the extremely centralized system of sectoral and functional management prevailing before 1957 to the basically regional system introduced in that year, and the replacement of the latter system in 1963 by one or both sectoral and functional all-Union authorities working through a much more limited number of regional bodies than had been established in 1957.

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[26] See footnote *e* to Chart 3.

[27] Efimov, *op. cit.*

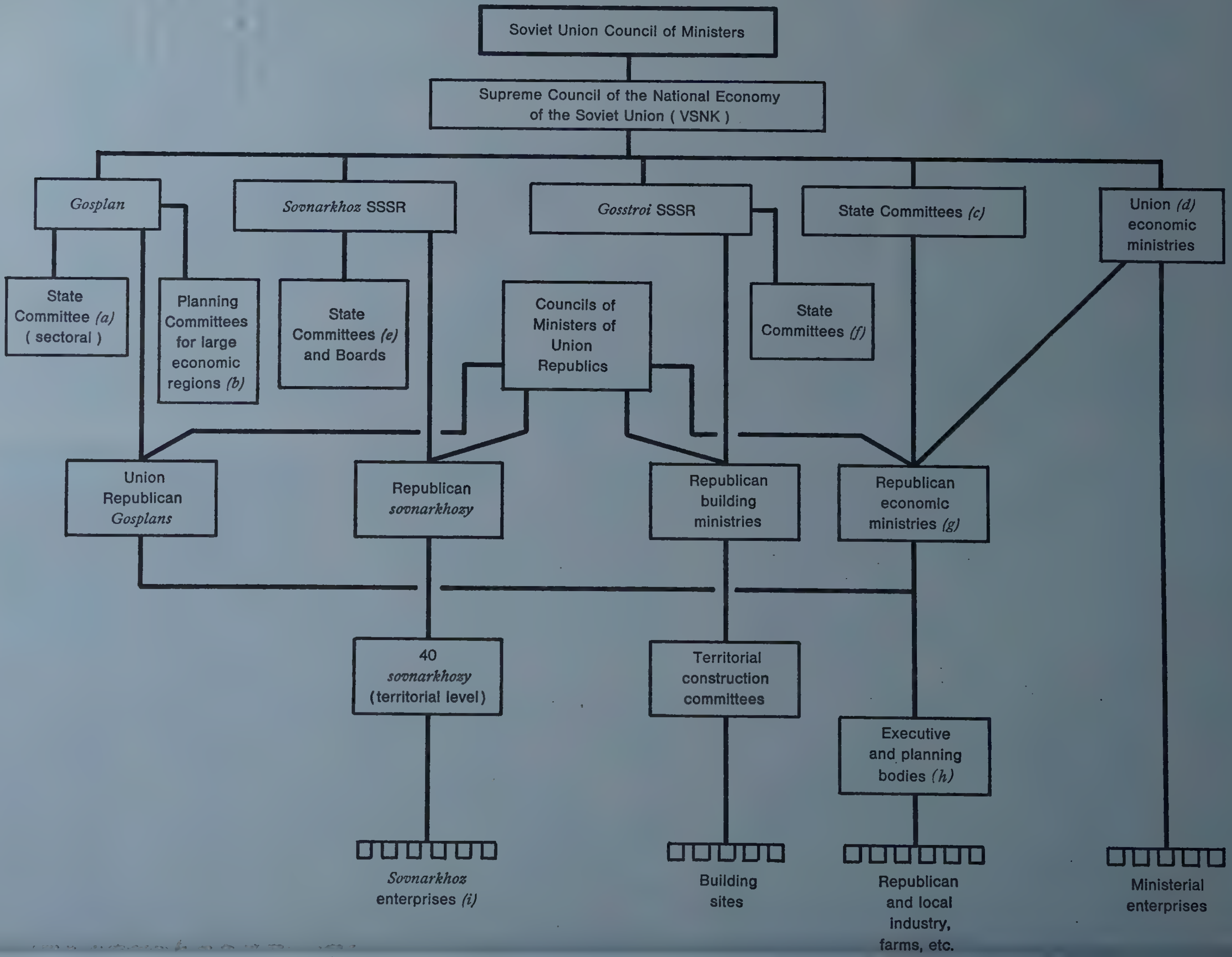
[28] Efimov, *op. cit.*

[29] See Chart 3 footnote *b* and section 5.

[30] See, for example, *Pravda*, 11 August 1964.

CHART 3

Institutional structure of planning and management of the Soviet economy, 1963


Soviet Union Council of Ministers
Supreme Council of the National Economy of the Soviet Union (VSNK)
Gosplan
Sovnarkhoz SSSR
Gosstroi SSSR
State Committees *(c)*
Union *(d)* economic ministries
State Committee *(a)* (sectoral)
Planning Committees for large economic regions *(b)*
State Committees *(e)* and Boards
Councils of Ministers of Union Republics
State Committees *(f)*
Union Republican *Gosplans*
Republican *sovnarkhozy*
Republican building ministries
Republican economic ministries *(g)*
40 *sovnarkhozy* (territorial level)
Territorial construction committees
Executive and planning bodies *(h)*
Sovnarkhoz enterprises *(i)*
Building sites
Republican and local industry, farms, etc.
Ministerial enterprises

(b) The hierarchy of plan-implementing institutions in eastern European countries

In most of the eastern European countries, the structure of planning and plan-implementing institutions has been drastically changed several times, with shifts of emphasis, as in the Soviet Union, between a "sectoral" or "ministerial" and a "regional" form of organization. Today, the structure in most countries is basically "sectoral" or "ministerial", though eastern Germany exhibits a compromise between the two.

In eastern Germany, the change from a ministerial to a regional system of planning and management in 1958 followed the change to the *sovnarkhoz* system in the Soviet Union, and was in many respects very similar to it. The industrial ministries were abolished and, although industrial departments of the State Planning Commission retained significant supervisory functions over the related branches of industry, the management responsibilities of the Regional Councils were greatly increased. A further reorganization in 1961 produced a system falling between this "complex-territorial planning system" and the ministerial system which was restored elsewhere.

This new institutional structure, which broadly speaking is still in force,[31] depends upon three main bodies — the State Planning Commission, the National Economic Council and the State Secretariat for Scientific Research and Technique — established immediately below the Council of Ministers.[32] The second of these carries the main responsibility for plan implementation in the industrial field, operating through the VVBs (associations of state industrial enterprises) and the Regional Economic Councils. The latter, in turn, are responsible for regional VVBs, as well as for exercising a general supervision over subordinate local bodies which also administer some small industries.

As in other countries, ministries of home trade and of foreign trade exist — in the first case exercising a general supervision over a trade network which is administered at lower levels by regional and local authorities, in the second case administering the foreign trade enterprises, each of which conducts import and export trade in its particular commodity sector. The National Economic Council is responsible for ensuring the necessary supplies of key materials, equipment, etc., to its enterprises and of such products from them to other enterprises and to home and foreign trade; but over a wide field inter-enterprise trading or deliveries from producing to trading enterprises are conducted, within the limits set by plans, under the supervision of lower-level regional bodies or on the responsibility of the VVBs themselves.

The structure of planning and management in the industrial sector in eastern Germany is illustrated in Chart 4. It may be noted that the share of industry subordinated to regional and local authorities — covering about one-third of total output — is much larger in eastern Germany than in other eastern European countries. The management of agriculture is essentially "regional" in character, and the system is, indeed, virtually identical with that already described in the Soviet Union. Functions and responsibilities of the various administrative organs may, however, change considerably in connexion with the reforms of planning and administration now taking place in order to implement the "new economic system", which was outlined in a decision by the Presidium of the Council of Ministers in mid-1963.[33]

In the other eastern European countries, as already mentioned, the management structure today is basically "ministerial" or "sectoral" rather than "regional". Below the Council of Ministers, the State Planning Commission (or Office) and other "functional" ministries — concerned with the financial system, wage determination, price fixing, scientific and technical development, statistical services, etc. — are paralleled by a range of "sectoral" ministries responsible for each of the main branches of industry, for agriculture, home trade, foreign trade, transport and communications. Charts 5 and 6 illustrate certain important features of the institutional structure in Czechoslovakia in 1963 and in Poland.[34] The structures

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[31] December 1964.

[32] Of course, other "functional" ministries similar to those existing in other countries (see below) also have their place in the structure.

[33] See *Richtlinie für das neue ökonomische System der Planung und Leitung der Volkswirtschaft*, Berlin 1963.

[34] It must be stressed that Chart 5 illustrates the structure in Czechoslovakia *in 1963*. The far-reaching changes in the whole planning and management system now proposed, and described in section 3 below, will change — or affect the relevance of — many of the details of this chart. However, the details of the changes are not yet precise enough to permit a complete revision. See also the SURVEY for 1964, Chapter I, section 7.

Footnotes to Chart 3

Sources: A. Efimov, Paper presented to the United Nations Seminar on Planning Techniques, Moscow 1964; *Planovoe khozyaistvo*, No. 4, 1963; *Pravda*, 14 December 1962.

[a] For chemicals industry, metallurgy, fuels, oil extraction, oil refining and petrochemicals, automation and machine building, electronics, timber and timber-processing, light industry, food industry, professional and technical education.

[b] See footnote 20 in text.

[c] Those with some significance for economic planning and management include the Committees of Party and State Control; for labour, salaries and wages; for shipbuilding; for utilization of nuclear power; for external economic relations; the State Bank; the Central Statistical Office; the Committee for State Procurement and the all-Union society for sales of equipment, fertilizers and other current material inputs to collective and state farms and for the farm machinery repair services. Committees for technical development cover aircraft, defence, radio electronics and general electronics. A Committee for co-ordination of scientific research has committees at the Republican level (with dual subordination to the Republican Governments) and they, in turn, control lower-level research establishments. Some other committees also have counterparts with similar dual subordination at the Republican level (see footnote *g*).

[d] Those of significance for economic planning and management include the Ministries of Foreign Trade, Merchant Marine, Transport, Medium-sized machine building, Transport construction, Agriculture, Finance, Electric power (see footnote *g* also).

[e] State Committees for Trade and for Fisheries. Boards for the metallurgical industries, engineering, fuels, chemicals and rubber, timber and building materials, raw materials for the light and food industries and others. The agricultural board deals with deliveries of machinery to agriculture; there is a transport board and a board for the supply of equipment to building sites.

[f] For installation and assembly work on construction sites; civil engineering; transport construction; the building materials industry; construction in Central Asia.

[g] Those with dual subordination to all-Union State Committees or Ministries include Ministries for production and procurement of agricultural products, electric power, transport and finance, as well as the Republican statistical departments and Committees for Party-State control.

[h] The two main groups are those for industry and for agriculture. In the latter case, local Production Boards intervene between the regional bodies here indicated in the chart and the collective and state farms.

[i] In some cases a "firm" provides a unit of control over several enterprises at a level below that of the *sovnarkhoz*. It is contemplated that it may eventually replace the *sovnarkhoz* authority (at least below Republican level) in some cases (see text).

CHART 4

Organizational structure of state industry in eastern Germany

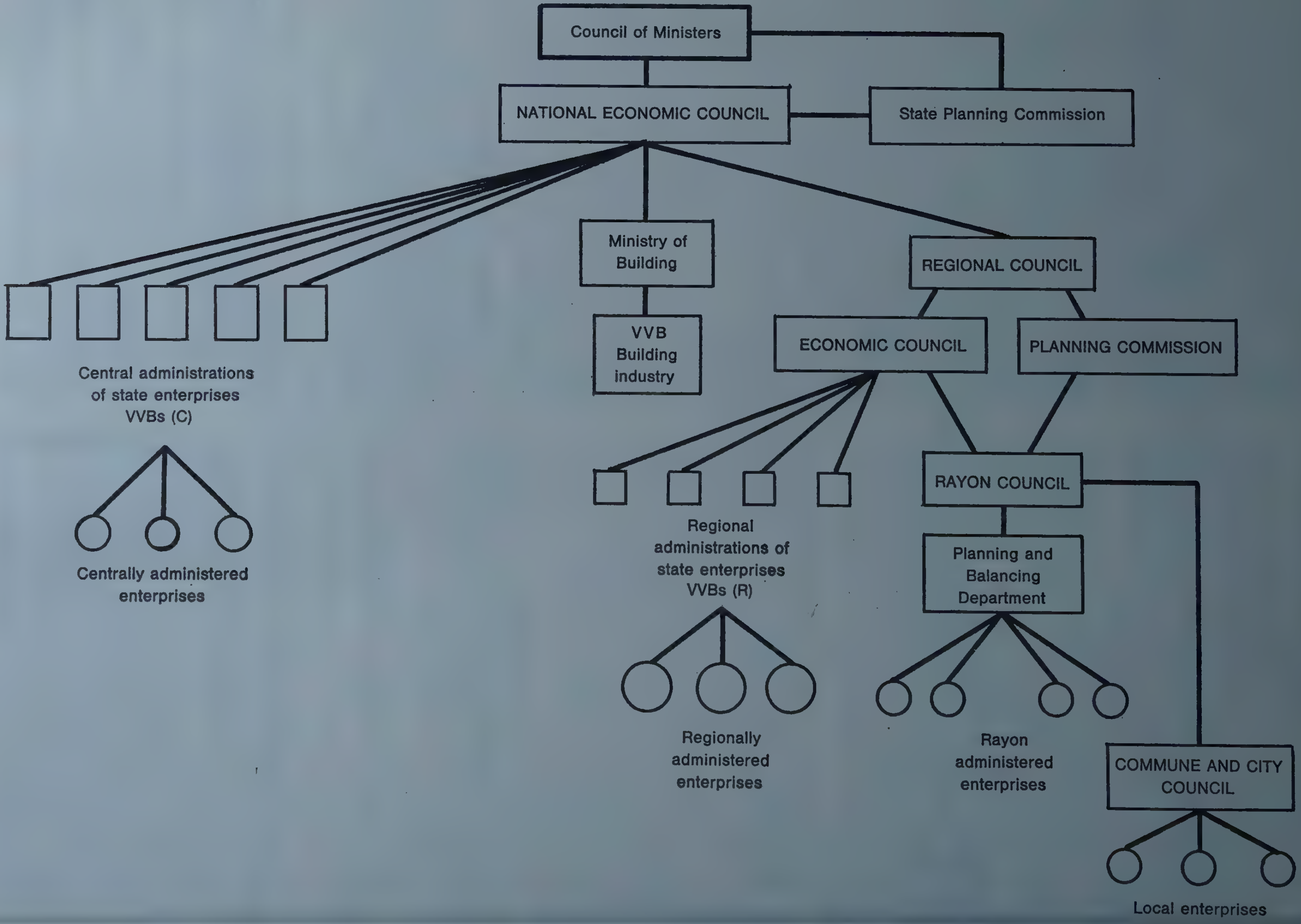

Council of Ministers
NATIONAL ECONOMIC COUNCIL
State Planning Commission
Ministry of Building
VVB Building industry
REGIONAL COUNCIL
ECONOMIC COUNCIL
PLANNING COMMISSION
Central administrations of state enterprises VVBs (C)
Centrally administered enterprises
Regional administrations of state enterprises VVBs (R)
Regionally administered enterprises
RAYON COUNCIL
Planning and Balancing Department
Rayon administered enterprises
COMMUNE AND CITY COUNCIL
Local enterprises

CHART 5

Structure of planning and administration of industry and agriculture in Czechoslovakia in 1963

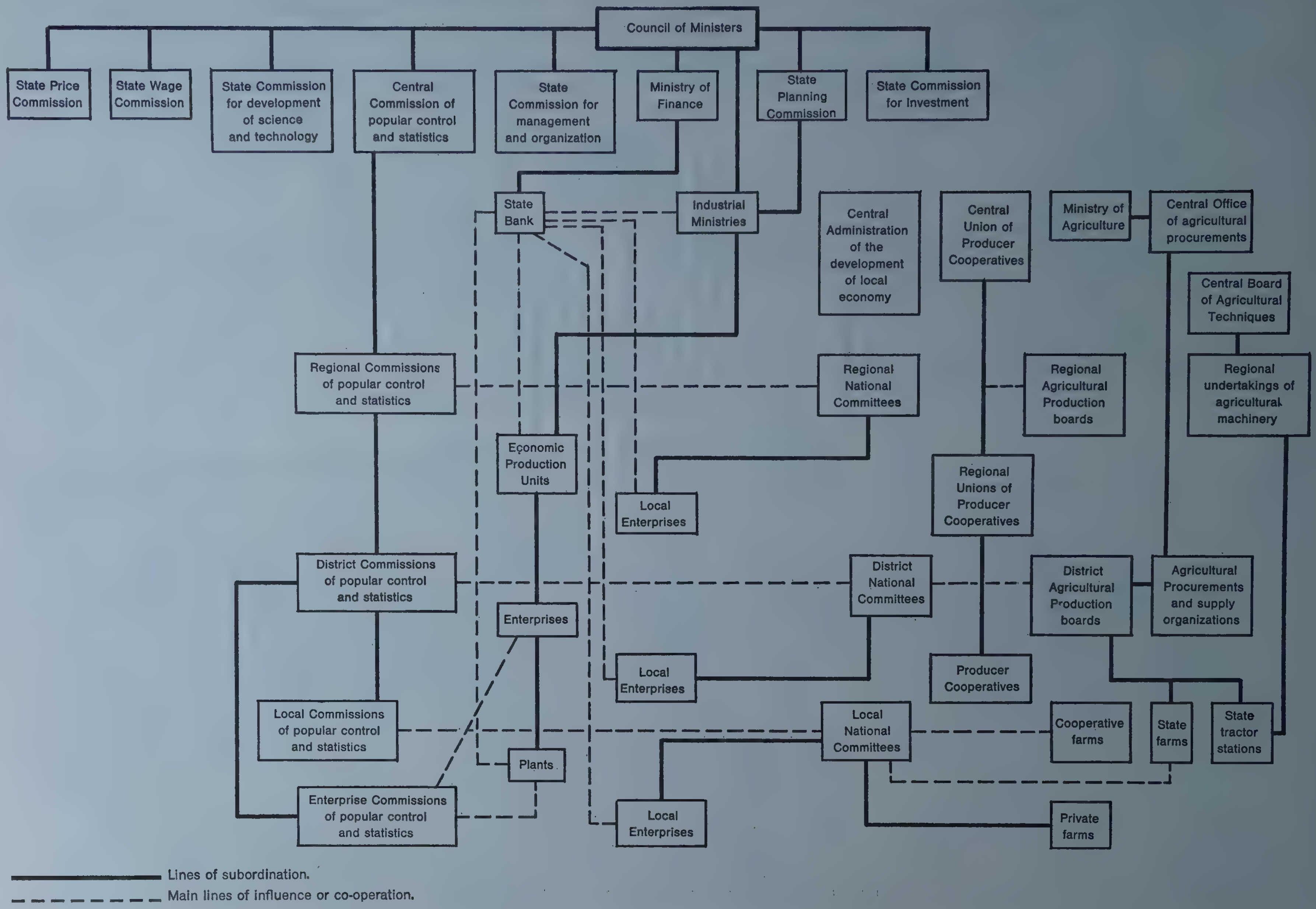
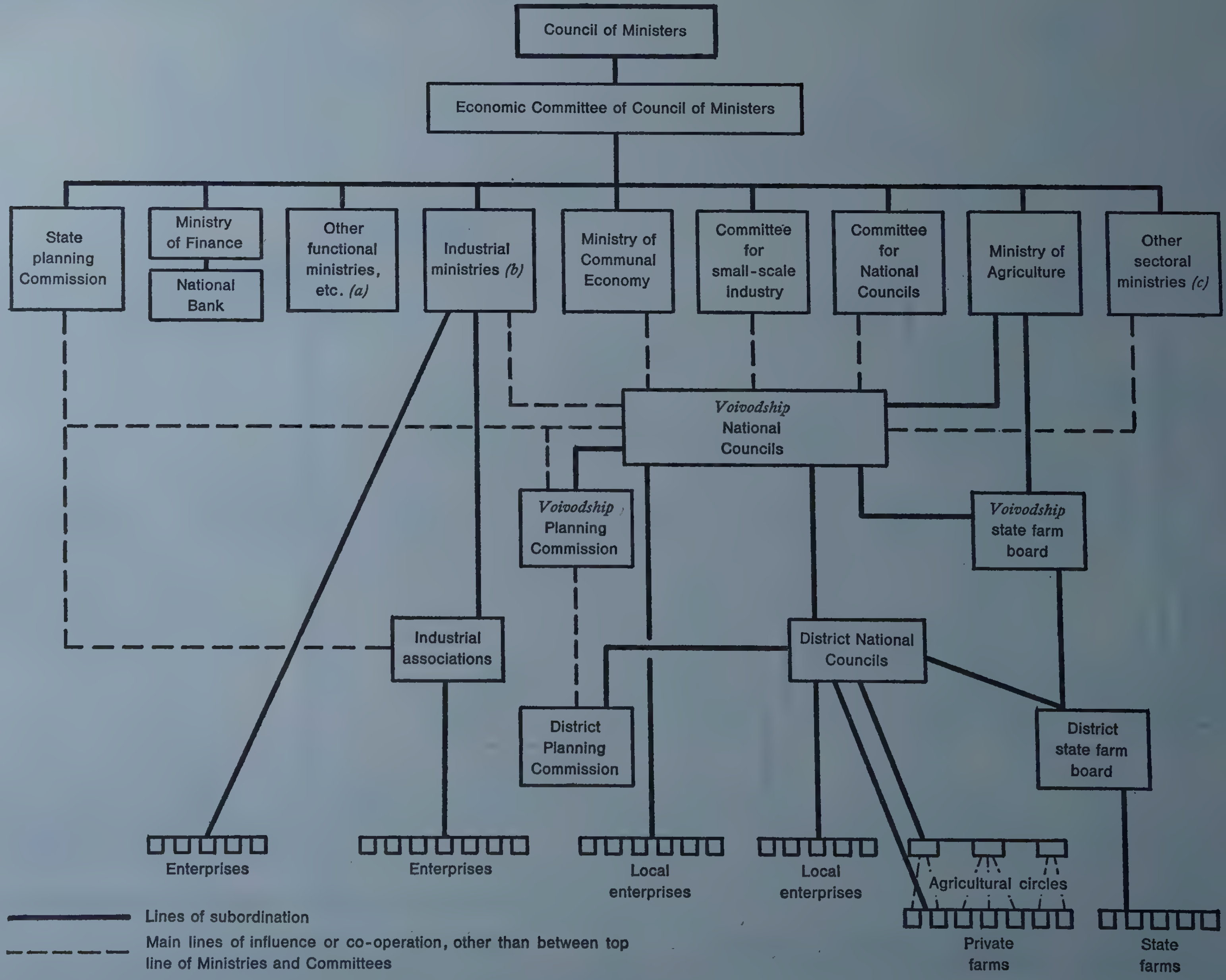

Council of Ministers
State Price Commission
State Wage Commission
State Commission for development of science and technology
Central Commission of popular control and statistics
State Commission for management and organization
Ministry of Finance
State Planning Commission
State Commission for Investment
State Bank
Industrial Ministries
Central Administration of the development of local economy
Central Union of Producer Cooperatives
Ministry of Agriculture
Central Office of agricultural procurements
Central Board of Agricultural Techniques
Regional Commissions of popular control and statistics
Regional National Committees
Regional Agricultural Production boards
Regional undertakings of agricultural machinery
Economic Production Units
Local Enterprises
Regional Unions of Producer Cooperatives
District Commissions of popular control and statistics
District National Committees
District Agricultural Production boards
Agricultural Procurements and supply organizations
Enterprises
Local Enterprises
Producer Cooperatives
Local Commissions of popular control and statistics
Local National Committees
Cooperative farms
State farms
State tractor stations
Plants
Enterprise Commissions of popular control and statistics
Local Enterprises
Private farms
Lines of subordination.
Main lines of influence or co-operation.

CHART 6

Institutional structure of planning and management in Poland


Council of Ministers
Economic Committee of Council of Ministers
State planning Commission
Ministry of Finance
National Bank
Other functional ministries, etc. (a)
Industrial ministries (b)
Ministry of Communal Economy
Committee for small-scale industry
Committee for National Councils
Ministry of Agriculture
Other sectoral ministries (c)
Voivodship National Councils
Voivodship Planning Commission
Voivodship state farm board
Industrial associations
District National Councils
District Planning Commission
District state farm board
Enterprises
Enterprises
Local enterprises
Local enterprises
Agricultural circles
Private farms
State farms
Lines of subordination
Main lines of influence or co-operation, other than between top line of Ministries and Committees

[a] Committee for labour, wages and social insurance; State Price Commission; Central Statistical Office.

[b] Building and building materials industry; mining and electric power; forestry and timber processing; chemicals; heavy industry; light industry;

in other countries differ in detail, but not fundamentally. A unique element in the Polish structure is the agricultural circles, which are intended to promote co-operative mechanization of the private-farm sector and other technical advances. In Czechoslovakia, the State Commission for Investment was set up in 1963 to re-establish a tighter control over the allocation and use of investment resources and to enforce a concentration on priority projects which had suffered from the earlier decentralization of investment decisions; and this constitutes an example of a "functional" body — additional to the normal ministries (or the equivalent) concerned with prices, wages, etc. — with responsibilities cutting across those of the sectoral ministries. Except in the rare cases of this kind, formal subordination of one ministry to another is unusual. In fact, as in the Soviet Union, the Planning Commission has frequently had — and in some degree still has — considerable powers of control or strong influence over the activities of the sectoral ministries, especially through its power to allocate key materials, items of equipment and, in some countries, basic foodstuffs. The importance of the Planning Commission is reflected in the fact that its chairman is frequently (as in Poland) a deputy prime minister.

Under the industrial ministries are not only producing enterprises (with or without intermediate trusts or enterprise associations) but also supply and sales organizations responsible for acquiring a significant part of material inputs for the enterprises and selling a large part of their output (some of these may be directly subordinated to trusts or associations). The ministries or trusts are normally also responsible for research organizations.

In all countries, retail trade is largely subordinated to regional and/or local authorities under some degree of control by the Ministry for Home Trade. Local authorities are responsible for most of the services normally provided by such authorities in other countries also, including local transport, and, as in the Soviet Union, they also administer a considerable number of small-scale industrial enterprises. Regional and local bodies play a larger role in the management of agriculture; the Ministry of Agriculture and, where it exists as a separate body, the central procurement organization both work through subordinate regional and local institutions which have a dual subordination to the local or regional authority. These local and regional authorities, in turn, are normally subordinated to a "ministry for the local economy" or equivalent.

Within that part of industry which is subordinated to central or sectoral, as distinct from regional and local, authorities, the recent tendency, already noted in the Soviet Union, to group enterprises into larger units — associations, trusts, etc. — is still more pronounced in several eastern European countries. In Hungary, for example, the reorganizations carried out in 1962 resulted in the absorption of 516 industrial enterprises into 131 trusts (with subordinate enterprises) or enlarged enterprises (with subordinate plants): in Poland some 140 industrial associations encompass a very much larger number of enterprises.[85] In Czechoslovakia the "economic production units" shown in Chart 5 are currently being reorganized into large "combines" with subordinate plants.

The setting up of trusts or associations intermediate between the individual enterprise and the industrial ministry represents one element in the recent attempts to find the best compromise between centralized and decentralized decision-making. It is discussed further in section 3 below.

As a rule foreign trade is conducted by separate enterprises subordinated to the Ministry of Foreign Trade. However, in Hungary certain large industrial enterprises subordinated to the Ministry of Heavy Industry directly conduct the export trade in their products, as now do some enterprises in heavy industry in Poland[35a]. In Czechoslovakia the possible devolution of some foreign trade functions to productive enterprises is being discussed. In eastern Germany discussions on the same lines are going on and affiliation of foreign trade associations to certain VVBs is already taking place on an experimental basis.

(c) The "standing framework" of the system

The two preceding sub-sections have described briefly the hierarchies of plan-implementing institutions in the main "productive" sectors of the economy — industry, agriculture, domestic and foreign trade. It is also necessary briefly to outline the main non-hierarchical institutions of the management system and their role — the price and wage systems, the budget and financial mechanism, certain other instruments for checking or control of plan fulfilment.

The price system

In principle, both prices and wages have so far been determined in all the centrally planned economies by the central authorities, although some devolution of responsibility for price-fixing has occurred in recent years and more is in prospect in some countries, notably Czechoslovakia. The price system has to perform three main functions.

First, the comprehensive planning or management of a complex economy would be impossible without some means both of aggregating the myriad goods and services produced and inputs used, and of measuring their relative values. This is true even for an economy managed on the basis of directives, once the planning authorities aim at more than securing the implementation of relatively few production priorities; the price system becomes increasingly important as targets multiply and also as management by incentive becomes more necessary and/or desired. For the purpose of assisting the planning authorities to determine resource allocation, prices to producers — of their material inputs and their output — have, in principle, been fixed so as to reflect costs (see below). However, this concept is difficult to translate into practice in the agricultural sector, where the great majority of workers do not receive a fixed wage and their remuneration is largely determined by the weather and by the Government's policy concerning the pricing of farm inputs and output.

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[85] Hercovich, *Voprosy ekonomiki*, May 1964.

[35a] *Polish Economic Survey*, No. 14, 1964, pp. 8-9.

Secondly, the price system is one of the tools for distributing and re-distributing national income; and in this context the pricing of consumers' goods and of farm inputs and output is particularly important. The financing of investment, of social outlays and of other Government expenditures in the countries under review depends almost entirely on receipts from turnover tax (levied on consumers' goods) and on enterprise profits (transferred to the central or regional budget or retained, on the basis of central authorization, by the enterprise or trust); taxes on personal incomes and private savings are both relatively unimportant. Thus the price structure, and the relationship between the value at ruling prices of total consumer-goods supplied to the domestic market and the total of the wage and salary bill and farmers' money incomes, should be compatible with the desired distribution of the national income between personal consumption and other uses. Moreover, given the importance of co-operative farming (and of private farming in Poland) the relationship between state procurement prices for agricultural produce and retail prices for consumers' goods is an important determinant of the distribution of personal income and consumption between the urban and the rural populations.

Governments have generally tried — though not always successfully — to manage the economy on the basis of a relatively stable, or even falling, consumers' price level, although even if shortages and pressure on prices should develop in the consumers' market, the possibility of automatic diversion of resources from other uses towards consumption is very slight (see also section 3). They have also tended, increasingly in recent years, to try to fix the relative prices of consumers' goods in such a way as to avoid partial disequilibrium — shortages of some goods and rising stocks of others — in the consumers' market. Since perfect foresight, in estimating either the volume of supplies of different goods or consumers' demand, can hardly be expected, the avoidance of partial disequilibria in the consumers' market requires some flexibility in pricing; and the slower the adaptation of supply in the face of such disequilibria, the greater will be the need for price flexibility. Regional and local authorities in most countries have, in fact, some rights to vary retail prices in the light of local supply and demand conditions and, in recent years, trade organizations have been given some possibilities of cutting prices — in end-of-season sales, etc. — to dispose of surplus stocks of consumers' goods. Variation of hire-purchase facilities is also increasingly used.

Thirdly, prices are an increasingly significant element in the system of incentives. Their role in inducing the desired level and pattern of agricultural output, and of procurement by state purchasing organizations, has become more important as directives to the co-operative farms on sowing patterns and deliveries have been greatly reduced in scope and, in some countries, virtually abolished. It may be noted, however, that there may often be a conflict between the need to use price policy in this sector to ensure the desired volume and pattern of output and/or procurements and the desire to manage relative prices of farm output and of consumers' goods so as to maintain the desired distribution of real income between the rural and urban populations. Moreover, the need for short-term manipulation of prices in this sector or in the consumers' market may even be difficult to reconcile with the maintenance of the state financial plan for turnover-tax revenue and profit allocation to the budget. Nevertheless, it remains true, as already stated above, that major diversions of real resources from one use to another (for example from accumulation to consumption) can normally be avoided.

In industry, as the scope of detailed directives on inputs to be used and on the product-mix and assortment of goods to be produced has been progressively narrowed, relative prices have had an increasing influence on the decisions of enterprise managements. This was true even while the maximization of the value of global output remained the primary task for the enterprise; and the importance of prices has, of course, been accentuated as, in several countries, either profit-maximization or cost-reduction has been given increasing importance in the complex of enterprise targets or success-indicators. However, since prices paid to and by producers (other than prices for farm produce) are normally fixed for fairly long periods — five years or more — their use to influence resource allocation in the short run can only be rather limited.

As indicated above, the basis of price formation in industry so far has been that prices (exclusive of turnover tax levied on consumers' goods) should reflect costs — until recently, costs of labour and material inputs *plus* depreciation charges *plus* a "normal" margin for profits.[36] But now in Bulgaria, Czechoslovakia, eastern Germany, Hungary and Poland the concept of cost is being amended to include also a charge on all fixed and working capital.[37] This has for long been an element in the "shadow prices" used in planning in some countries and "investment efficiency" calculations have normally involved some allowance for time preference or the cost of capital (see Chapter IV, section 6). The introduction of the capital charge into calculations of enterprise costs and thus of prices (on the occasion of future price reforms or in any decentralized price fixing) is intended both to give enterprise managers an incentive to use capital more efficiently and also to make the price structure a more suitable allocating instrument.

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[36] However, in fact, some products have at times been priced in such a way as to involve the producing enterprises in "planned losses" instead of planned profits. Moreover, since wholesale prices are normally kept constant for long periods, relative profit margins (and for consumers' goods the relationship between profits and turnover tax) change significantly in the periods between price reforms, as costs change at different rates and even in different directions in the various industrial branches and enterprises. The determination of the price of any good at the time of a price reform is normally based essentially on a costing of the "norms" of labour and material inputs (plus allowance for depreciation, etc.); thus, in principle, it reflects the costs of the average — or perhaps the somewhat above-average — enterprise in that branch of production.

[37] The capital charges have, in fact, been absorbed without changes in prevailing prices in Hungary, where the rates are 5 per cent of the original cost of fixed assets or their value as determined at the last census of capital stock (if acquired earlier) and 5 per cent on working capital. In the other countries mentioned, the decision to introduce a capital charge has been taken in principle, but the rates have not been announced. Many economists in the Soviet Union are also now advocating the imposition of a capital charge.

However, in fixing prices in most countries attempts have also been made in recent years to reflect relative scarcities to some extent and/or gradually to bring domestic price structures somewhat closer to those of the world market. The latter tendency is linked with the continuing efforts — in countries such as eastern Germany, Hungary and Poland in particular — to achieve the optimum level and pattern of foreign trade and bring about the consequential adjustments of the domestic production pattern and, indeed, to increase macro-economic efficiency in the economy in general. The adjustments made from time to time to reflect scarcities due to short- and medium-term capacity limitations which are not expected to be relieved through foreign trade are similarly desirable as a means of promoting the optimum pattern of use of resources, in a situation in which enterprise managements have some incentive to pursue either cost reductions or profits. An example of such a modification of "cost-pricing" to reflect scarcity is the fixing of oil prices in the Soviet price reform of 1961/62 at a high level in relation to coal prices, on the grounds that relative prices reflecting relative costs (as defined in that country) would have led to a demand for oil greater than the planned refining capacity could meet.[38]

The problem of price determination has for several years been under active discussion in most of the countries of the area; and it clearly becomes a key issue as soon as responsibility for deciding the use of inputs and the pattern of output is to any significant extent devolved to enterprise managements motivated by incentives. Two broad tendencies can be seen in current discussion, and action, on the pricing problem:

(*a*) To reform the system of price formation in such a way as, if possible, both to ensure that prices at some stage of the production and distribution process reflect costs (in some reasonable sense of the word) as a guide both to the planner and to the enterprise manager, but at the same time to fix prices to the user or consumer so as to reflect relative scarcities and encourage the optimum short-run allocation of resources;

(*b*) To decentralize price-fixing for some products so as to give market forces a direct influence.

Various possibilities under the first head have been canvassed. One of the more promising would seem to be a system on something like the following lines. The price paid to the producer of a given good would be fixed in relation to costs in that branch of production: prices to the user or consumer of the same good would be more flexible, varying to reflect changing demand and supply relationships. The authorities would decide to what extent, and how frequently, to pass back any "scarcity profit" on a particular product to the producer, in the form of extra price-incentives to expand output or additional investment means to extend capacity (or, alternatively, to reduce producers' prices and/or capacity for goods requiring a subsidy to clear the market). This flexibility of prices to users and consumers could be combined with any desired degree of stability of prices to producers, except in cases of a product requiring a "scarce" input for which no substitute existed. In such cases the price to the producer of the former product might have to be varied or, alternatively, price stability for the input — and allocation of it — might be preferred. Governments would, of course, still be free to decide the pattern of development partly on the basis of criteria other than costs should they so desire, though still using the price mechanism to help to give incentives throughout the economy to achieve the desired ends at lowest cost.[39] Other participants in the discussions now in progress in many countries have advocated a different solution, based on stable prices to the user of a product but flexible prices to the producer, intended to intensify pressure for a change in production patterns to conform with changing demand.[40]

Decentralized price-fixing seems likely now to be carried further in Czechoslovakia than in any other country of the region. The reforms recently proposed, and now under detailed discussion, envisage the continued central fixing of prices of basic materials, fuels, power and basic foodstuffs and market determination of prices of other goods, subject in some cases to the central setting of limits to the permissible range of prices. To the extent that price control is operated, it will aim at linking the domestic price structure more closely to that of the world market though presumably, as in any economy, subject to margins representing any deliberate decisions on the part of the authorities to "protect" particular lines of domestic production.

Elsewhere, decentralization of price fixing has not gone far beyond some authority for local authorities and/or trade organizations to vary prices of some consumers' goods in the light of local supply and demand conditions, but often subject to centrally-fixed limits. For example, in Hungary retail trade organizations may vary prices within stated limits during end-of-season sales. In that country, also, foreign trade enterprises seeing an opportunity of buying a cheaper substitute for a commodity specified in their import programme have the right — in the case of wool, leather and their substitutes — to pass on part of the saving in the price charged to the domestic user (this is avowedly an experiment):[41] Hungarian exporting enterprises have some rights to pay extra, on their own responsibility, for special packing, styling, etc., of goods for export.

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[38] See the SURVEY for 1961, Part 1, Chapter II, pp. 39-40.

[39] The late Academician Nemchinov is among those who have advocated such a pricing system in the Soviet Union. Others have put more stress on strict cost-pricing, even in the consumers' market, apparently ignoring the problem of reconciling changing plan priorities or consumer preferences with short-run inelasticities of supply. Others have advocated pricing on a basis that would enable every branch of industry to self-finance its investment. Innumerable other variants have been canvassed. As a participant in the Soviet discussion has remarked, "The [latest] revision of wholesale prices revealed that, in tackling a number of important tasks, our practising economists encountered a lack of theoretical stock" (*Ekonomicheskaia gazeta*, 9 March 1963). The problem, however, has taken on a new dimension as it becomes increasingly linked with the move to give more importance to optimization criteria in planning and to profitability as a success criterion and a basis for incentives for enterprise management.

For recent illuminating discussions in the Soviet Union, see *ibid.*, L. Vaeg and S. Zakharov, *Voprosy ekonomiki*, No. 4, 1963 and other issues of both journals in 1963 and 1964, as well as V. Trapeznikov, *Pravda*, 17 August 1964 and subsequent discussion in the issue of 20 September.

[40] See, for example, J. Pajestka, *Nowe drogi*, No. 11, 1964.

The wage system

Despite considerable differences of detail, the principles of the wage system are essentially the same for all the centrally planned economies, and no significant changes appear to be in prospect. Centrally determined wage tariffs fix basic wage-rates (hourly or monthly) for each category of skill for workers (on the basis either of the qualifications of the worker or of the classification of the job) and for each group of technical and administrative employees, and these tariffs are normally varied only at relatively long intervals. However, earnings vary very much more frequently since piece rates or combinations of time and piece rates are common, and premia of various kinds — in Hungary, also profit participation — provide a significant part of the income of most categories of workers and employees. Moreover, enterprise managements have a certain scope for manœuvre — when attempting to attract workers, to encourage higher productivity, etc. — by varying job classifications; the extent of their practical freedom depends on the rigidity with which their total wage-bills and/or employment may be controlled at any given moment (see also sections 3 and 4).

Wage differentials have been used to encourage recruitment to particular industries at various times in all countries, and their effect can be reinforced by using the control of wage-bills (or average wage) to limit the possibilities of recruitment to branches of lower priority. The rates of increase of employment and personal income in different regions can be similarly influenced.

The apparatus of financial control

In all the centrally planned economies, the state budget and the central control of financial flows play at once a greater and a lesser role in the system of management of the economy than they do in most developed market economies. They play a lesser role in the sense that measures of fiscal and financial policy in the former countries are not a major means of influencing the decisions of investors, and that the level and distribution of personal disposable income tends to be controlled directly by the fixing of wages, salaries and farm prices much more than by the manipulation of taxes on personal income.[42] They play a greater role in that, first, a much larger share of national income passes through the state budget in the centrally planned economies than in most market economies and, secondly, financial controls of various kinds complement the very comprehensive system of physical planning.

The revenue of the state budget, as has already been indicated, everywhere comes mainly from turnover tax and that part of the profits of enterprises — the greater part — that is transferred to the state.[43] This revenue serves not only to finance the normal services provided by the government in most economies (administration, defence, health, education, etc.) and allocations for various purposes (including provision of such services) to local authorities,[44] but also to finance by far the greater part of all fixed investment, the provision of working capital to cover investment in stocks and work in progress, subsidies to enterprises making planned losses and such activities as scientific and industrial research, geological surveys, etc.

A rather special type of flow (outward of subsidy or inward of profit) between the state budget and the enterprise sector is that between the budget and the foreign trade enterprises, representing the planned "profit" or "loss" of the enterprise concerned on account of the difference between the domestic price of the good it buys for export and the foreign exchange price realized (converted to the domestic currency value at whatever the accounting exchange rate may be) or, conversely, between the price paid for an import and the price at which it is sold to the domestic user or trade organization (a price identical with that of the domestically-produced good of equivalent quality).[45]

A significant feature of the link of productive units with the budget is that payments are made automatically. As far as turnover tax is concerned, payments by industry or by wholesale trade are made immediately the transaction incurring the tax liability takes place; and the part of planned profit to be transferred to the budget (or in case of a planned deficit, the state subsidy) is automatically taken from (or credited to) the account of the enterprise at the end of each quarter. In other terms, payments to the budget have precedence over current payments, even if it is necessary to apply for a short-term credit to fulfil other commitments; and the operation of the budgetary system thus reinforces the effect of other financial controls mentioned below.

An enterprise's only significant sources of finance for its planned investment and for maintenance of its stock of capital are budget grants for fixed capital formation (or the equivalent in the form of authorized retention of profit or medium-term credit from the banking system to be repaid out of later profit) and for working capital (supplementing that provided, on the basis of centrally determined rules, out of its own profits) and the depreciation charges which it is obliged to set aside according to centrally fixed norms.[46] In eastern Germany, however, the system of investment financing is now being changed, concurrently with changes in the criteria for price formation, in such a way as to provide for a very high proportion of self-financing by the VVBs (from retained profits and interest-bearing credits).[47] Although central control on major investment projects is maintained, this change will bring about a greater autonomy in investment decisions within a given industrial branch and will, of course, link more closely the fulfilment of the investment and the financial plans.

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[41] The incentive to pass on part of the saving depends on the fact that the users now have some possibility of ordering the materials desired and of refusing to accept delivery of unsatisfactory qualities.

[42] In the Soviet Union, indeed, the complete abolition of income-tax is an announced objective, though the process appears to have been, at least temporarily, suspended. Nevertheless, in 1962, income-tax and other "receipts from the population" provided less than 10 per cent of the total budget revenue.

[43] Two-thirds of total enterprise profits (without deduction of the losses of some other enterprises) in the Soviet Union in 1961 (*Narodnoe khozyaistvo SSSR, 1962*, p. 628).

[44] These in most countries also raise some revenues from local taxes authorized by the central government.

[45] See United Nations document E/CONF. 46/34, "Trade problems between countries with different economic and social systems," reprinted in the *Bulletin*, Vol. 16, No. 2.

All funds earmarked for expenditure on fixed investment by a trust or enterprise must be held in an account with the appropriate bank;[48] and the greater part of these funds is assigned to specified projects in the enterprise's (or trust's) investment plan.[49] The bank is responsible for seeing that funds are withdrawn only for approved purposes and, in most cases, actually for checking invoices against plans and contracts to see that cost and other conditions have been met (for investments from the enterprise's own funds or from medium-term credit the control is often less rigorous).

The controlling role of the banking system in other fields, also, is very important in principle, though sometimes of less significance in practice. The financial plan of an enterprise in any year contains allocations for, *inter alia*, new fixed investment (as already indicated), capital repairs, wage-fund, premia funds of various kinds, expenditure on current material inputs, and working capital to cover stock-holding, short-run claims on other enterprises, etc. All current funds are kept on a single current account with the National Bank, but the degree of detailed control over the individual allotments varies considerably from one country to another and over time.

The banks are everywhere responsible in principle for seeing that working capital funds are not "unreasonably" exceeded; but in every country the dilemma exists that, on the one hand, a rigid control by formulae would adversely affect the enterprise's efficiency but, on the other, the bank rarely has the necessary knowledge and skill to judge whether or not a request for additional credit is justifiable in the light of the enterprise's plan targets and its current operating conditions. Thus, for example, the banking system's formal obligations to exercise control have not in fact prevented excessive stock accumulation in recent years in most countries.[50] However, in several countries, the charging of penal interest rates on above-plan working capital (up to 20 per cent or more in some cases) helps to limit abuses.

A similar problem arises in the case of control of wage-funds. Normally, the enterprise may exceed its authorized wage-fund only in certain conditions and the banks have been responsible for ensuring compliance. But, again, they have not the necessary knowledge to exercise such control effectively, and there has been a widespread tendency for wage-funds to be exceeded whenever pressures to maximize output coincide with fluctuations in flows of material supplies and thus encourage an expansion of employment to ensure the availability of labour at periods of peak activity.[51]

However, even where the controlling function of the banking system cannot be completely effective, its related reporting function can be a very important means of keeping the planning authorities informed about developments in the economy. Since, first, enterprises hold virtually no cash, secondly, all inter-enterprise transactions go through bank accounts and enterprises are not generally permitted to give credit to each other and, thirdly, funds for different purposes are to some extent held in separate accounts, financial statistics can be a very useful guide to current progress in many fields — fixed investments, stock movements (though not, unfortunately, the way in which these are made up of changes in, for example, stocks of materials and of finished goods outside the trade network), payments of money income to the population, retail sales, etc.

Other non-hierarchical controlling and reporting machinery[52]

Other forms of statistical reporting also keep the planning authorities in continuous touch with the progress of plan implementation. The central statistical offices or planning commissions normally collect basic data at frequent intervals and produce consolidated progress reports. The Hungarian Central Statistical Office and Polish Planning Commission, for example, produce rather comprehensive monthly and quarterly reports on plan fulfilment combined with forecasts for the current calendar year. Certain statistics may be collected far more frequently. In the Soviet Union, for example, five- and ten-day reports are made by enterprises to their superior authorities on output of basic materials, fuels and items of equipment, on sowings of crops and on procurements;[53] daily, weekly or monthly reports (depending on the importance of the product) are made by producing enterprises in Poland. Reports from foreign trade enterprises on their orders and transactions are normally collected at least monthly: if circumstances make it desirable, more frequent reports may be called for.

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[46] Usually these remain at the disposal of the enterprise or the trust and can be spent on capital repairs and new equipment at its discretion: in some countries a part has been subject to re-allocation by the responsible ministry among all its subordinate enterprises.

[47] See the Survey for 1963, Chapter I, p. 13, and *Gesetzblatt*, Part II, No. 95, 1964.

[48] In some countries (e.g. Hungary) the Investment Bank; in the Soviet Union, *Stroibank*; in some other countries, the State Bank; in others again (e.g. Romania), allocations from the budget must be held in an account with the Investment Bank, but an enterprise's own funds earmarked for investment are held with the State Bank.

[49] But the situation is now changing in Czechoslovakia in this respect (see section 3) and also in eastern Germany as increasing responsibilities are devolved to the VVBs.

[50] See the Surveys for 1962, Part 1, Chapter I, section 4 and for 1963, Chapter I, section 5.

[51] In Poland, this particular control has now been removed from the banking system to the industrial ministries and/or associations which will operate "wage-fund reserves" for their enterprises (see the Survey for 1963, Chapter I, p. 14; and, for a comprehensive account of problems of employment and wage control in the countries of the region in the earlier years, see the Survey for 1957, Chapter VII).

[52] Excluding the hierarchical controls exercised by industrial ministries, etc.

[53] L. Volodarsky, "Planning and Statistics", a paper presented to a United Nations Seminar on Planning Techniques for Developing Countries, Moscow, July 1964.

Mention must also be made of the role of the Ministry or Commission of State Control (merged with the State Statistical Office in Czechoslovakia and since 1963 forming the Central Commission of People's Control and Statistics), with its local bodies which can investigate practically any aspect of economic or social activities which is subject to standing regulations (ranging from quality control in retail trade to the private use of official cars).

Finally, there exist everywhere the organs of the ruling party and the trades unions. Party organizations are meant to, and in most cases do, play a most important role in controlling all aspects of plan implementation. This is facilitated by the fact that the Party constitutes a highly centralized and disciplined parallel hierarchy, present in all administrative and economic units of some importance. Party control is far from being limited to political matters in the narrow sense: it can be exerted over anything that has to do with "policy" in the very large sense, including such aspects as technological progress, product-mix, etc. In addition, the Party organizations are supposed to help with the implementation of the plan both by initiating (through trades unions) labour competition and by the personal example and activities of their membership.

The influence of trades unions is, in principle, limited to matters of labour, wages and general social policy. They are supposed to see to it that the plan is implemented without infringing the spirit or the letter of the numerous regulations concerning man-power policy, wage-rates, labour norms, premia and social amenities. They are also supposed to support the implementation of the plan, not only by organizing labour competitions but also by helping with the revision of labour norms and the introduction of new techniques.

The importance of the control and influence of the organs of state control, the Party organizations and the trades unions should not be underestimated. In the system as it has operated so far in these countries, those responsible at the lower levels of management, in industry, agriculture, trade, etc., face a complex of directives, plan targets and incentives influencing them in sometimes conflicting directions and leaving scope for registering "plan fulfilment" by a variety of means, not all of which are equally in conformity with government policy. The control or influence of the organizations just mentioned may then be the only way of preventing managers from formally fulfilling plans to the detriment of the national plan objectives. Well-oriented non-hierarchical controls of this kind can become the voice of the general interest, never yet perfectly represented by any system of incentives; but badly conceived they may seriously hamper efficient economic management.

3. The Role of the Annual Plan and the Extent of Decentralized Responsibility for Plan Implementation

"For many an outside observer the predominance of annual plans, connected with imposing annual plan targets upon enterprises, seemed a most characteristic feature of our planning system. This practice is not inherently connected with planning, however. It was rather called for by the economic situation of the country and the objectives accepted by the economic policy. Planning is, in its nature, a long-term affair."[54] The annual national plan, with its subsidiary plans and targets for each unit of the hierarchy of management institutions down to the individual enterprise, has so far been a basic element in the system of economic management and the machinery for long-term plan implementation in the centrally planned economies. It is this disaggregation of the targets of the national plan and their transformation into targets and directives for subsidiary economic organizations, discussed in sub-section (b) below, which most distinguishes planning in these countries from planning in the market economies.

(a) The implementation of the global proportions of the plan

The national plan is, from one point of view, a plan for realizing the productive possibilities of the economy — for producing a national income of a given volume and composition in terms of material goods and "productive" services; from another, it is a plan for the distribution of this national income — basically between investment (accumulation) and consumption. This constitutes the major "synthetic balance" of the plan.

The problem of implementing it can be seen as that of controlling the distribution and redistribution of national income. The total net output of the various branches of material production, or national income, is first subject to a primary distribution between the wage-fund of the workers and employees in those branches and the "social fund". Part of the wage-fund goes straight into consumption as expenditure on material goods;[55] part is redistributed through expenditure on services, which generates part of the wage-fund of non-productive workers as well as a further direct flow into material consumption; part goes through taxation to the budget; part is saved and becomes part of accumulation. The social fund goes mainly to the budget, but some of it directly to accumulation; budget expenditures generate additions to the wage-fund, as well as some direct flow into consumption and accumulation; and so on until ultimately all personal incomes are either spent on material goods or accumulated.[55a]

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[54] J. Pajestka: "Certain Problems of Economic Planning in Poland", *op. cit.*, p. 167.

[55] This phrase should be interpreted everywhere as including "productive" services.

[55a] See "A note on some Aspects of National Accounting Methodology in Eastern Europe and the Soviet Union" (especially Chart 1, p. 59) in the *Bulletin*, Vol. II, No. 3.

But for purposes of effective economic management, other synthetic balances have to be calculated, representing a "boundary of production" wider than that of the national plan aggregates, which cover only material production (excluding all but the material content of such services as the greater part of central and local administration, health, education, consumers' services such as laundries, and also excluding actual or imputed rent). Since, however, these services both generate and absorb personal income, the balance of money income and expenditure of the population, as well as the balance of the income and expenditure of the state sector and the financial plan for the economy as a whole, have to be calculated on a wider basis.

Moreover, in setting the achievement of a certain rise in living standards as an objective of policy, even though not establishing a global target for this purpose in national accounting terms, the authorities in fact recognize that some "unproductive" services are a significant element in the standard of living in most societies, and one that tends to increase in importance in relation to material goods as standards rise. They have thus tended to become increasingly concerned, in recent years, with the planning of those elements in real personal income (and in social consumption too) which are not traditionally included in the consumption aggregate in the expenditure of national income.

The way in which the various synthetic balances are established at the plan-building stage has been described in Chapter IV (especially section 5). The implementation of the overall national plan depends not only on the realization of its output targets but also on securing the desired distribution of national income, which in turn depends on, *inter alia*, the behaviour of the components of these synthetic balances.

But various subsidiary national expenditure targets may also be given significant weight — for the distribution of total consumption between personal and social consumption, for the distribution of personal income or consumption between the urban and the rural population, for the distribution of accumulation between fixed capital formation and investment in stocks, etc.

However, not all of the targets of the national plan or the elements of the other main synthetic balances can be disaggregated into precisely equivalent directives or targets for the subsidiary organs of economic management (industrial ministries, enterprises, etc.); some of them, in whole or in part, can be influenced only indirectly.

The balance of consumers' incomes and expenditure

Aggregate personal money income consists of three elements—the wage-funds of productive and non-productive workers, the cash income of members of co-operative farms and a further small (except in Poland where private farming predominates) sector of non-wage income (pensions, incomes of the small group of self-employed, etc.).

That part of the wage-fund of non-productive workers coming from the budgets of the state or local authorities and pensions and other similar incomes are, by their nature, a reflection of an earlier budgetary provision and the planned amounts can hardly be exceeded. Wage incomes from other services can be regarded, in relation to the material consumption target of the national plan, as transfer incomes; they may influence the pattern of material consumption but not the total volume of demand for material goods.

The wage-fund of productive workers and employees is, in principle, an aggregate of plan targets handed down to the enterprises — in the form of targets for the total wage-bill or for employment and average wage (see sub-section (b) below) plus premia funds. However, as already noted, the control over enterprises' wage-bills has seldom been completely rigid and/or effective. Quite apart from the possibilities of evading the rules, the rules themselves have frequently permitted the wage-fund to be exceeded if output targets are also over-fulfilled (this may mean that the over-plan increment of consumers' incomes is matched by over-plan output; it does not necessarily mean that it is matched by over-plan output of consumers' goods); profit participation, as in Hungary, may also weaken the link between planned consumers' income and equivalent output. It may be noted that unplanned variations in wage-bills may lead to changes not only in the planned distribution of personal income by type of employment and branch of activity but also in its planned distribution by region (see also below).

The money income of co-operative farms is not determined directly by plan instructions. It is the result of an interplay of government price-fixing, harvest results and the extent — now everywhere quite considerable — of the farms' freedom to determine sowing patterns and to choose between, for example, deliveries of grain and increased feeding to animals, between sales of produce to state procurement organizations and sales on the free market, and between sales of produce and its distribution to their members as income in kind. The personal income of the collective farm members is determined, first, by the income of the farms and, secondly, by its allocation between distribution to the members and investment or reserve funds. Government regulations on, for example, the share of farm income to be allocated to indivisible funds, and the pressures exerted in some countries by procurement organizations and local and party bodies to ensure the planned level and pattern of deliveries, in fact limit the possibilities of manœuvre to some extent; and, of course, to the extent that above-plan (or below-plan) farmers' personal incomes reflect above-plan (or below-plan) farm output, the overall balance of the consumer-goods market need not be disturbed.[56] Such disturbances do occur from time to time in all countries; but unplanned developments in this sector tend to have their main effect on the distribution of real personal income between the urban and the farm populations.

The sum total of money incomes generated in the manner just described is reduced somewhat by taxation, and its impact on the supply of consumers' goods and services is further affected by saving. The latter can, of course, only be forecast. However, its net effect on expenditure can be offset by varying the net amount of credits extended to the population (for dwelling construction and hire-purchase).

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[56] Although the disturbance to the planned pattern of supplies — more farm produce in relation to consumers' manufactures — may be almost equally embarrassing to the authorities.

The national plan for consumer-goods production (*less* planned exports *plus* planned imports of such goods) *plus* estimated supplies of services to be bought directly by consumers should equal consumers' expenditure thus estimated. Planned output of consumers' goods is, in principle, reflected in output targets handed down to the producing enterprises and procurement organizations, and the planned supply to the home market is reflected in the turnover targets (by category of trade and by region) of the retail trade organizations. These are subject to a particular margin of uncertainty so far as agricultural products are concerned, since the balance-of-payments situation of these countries is not normally such as easily to permit major short-term adjustments of supplies through foreign trade, and reserve stocks are not commonly very large. However, it remains true that the problems of disequilibrium in the consumers' market have tended in recent years to be those of partial (sectoral or regional) rather than of overall disequilibrium, except in such conditions as those of a major harvest failure or of unforeseen difficulties in foreign trade (leading to a cut-back of planned imports of consumers' goods, or materials for the consumer-goods industries, or to a need to force out more exports of such goods than originally planned) or, on the other hand, of cumulated tensions in the economy leading to a breakdown of the control of wage-bills.

Partial disequilibria arise, first, because perfect knowledge of consumers' demand schedules is not vouchsafed to the authorities responsible for fixing retail prices. The uncertainties of farm output already mentionned are a second cause. A third is the fact that the system of targets and incentives at the level of the industrial enterprise is not perfectly adapted to calling forth the assortment of goods estimated by the planning authorities to be required to absorb consumers' disposable incomes at the ruling retail prices. Both the imperfections of planners' foresight and the imperfections of the system of enterprise incentives tend to produce market imbalances leading to a piling-up of unwanted stocks of some goods and shortages of others, sometimes throughout the national market, sometimes on a regional basis. This is particularly likely to happen if consumers respond to scarcities of "preferred" goods by saving in the hope of securing them at a later date rather than by spending on available alternatives; and any large accumulation of such personal savings may increase the difficulty of forecasting the future level and pattern of consumers' demand.

As has already been noted, such imbalances — if they are not very acute — may be adjusted by varying relative prices in the shops, and retail price flexibility has been increasing in recent years; changing consumer-credit conditions provide another means of adjustment (also for correcting overall disequilibria). However, the greater the planning authorities' concern with optimizing the pattern of use of resources devoted to consumption, the greater is likely to be their interest in quickly adjusting the pattern of output to demand conditions, so as to restrict the subsidy and tax elements in the consumer prices necessary to clear the market to those which are considered desirable in the light of long-term considerations of social or other policy.[57] The improvement of "communication" from the consumer through the trade network to the producer is thus one of the aims of the authorities in most countries today.

Finally, it must be stressed that, even though the planned balance of consumers' incomes and supplies may not be attained, there is little danger that, say, excess demand, shop scarcities and upward pressure on retail prices will have any significant *automatic* impact on other sectors of the economy. Neither investment demand nor the resources flowing to investment can be significantly affected: there can be no automatic effect on the import bill, and little on deliveries for export, although procurement of foodstuffs for direct or indirect export may in some circumstances face competition from strong incentives to sell on the free market.

"Leakages" of resources to consumption are possible if the incentives are great enough; and there may be some drain of materials from public investment to private or co-operative housing (though building licensing sets limits to this possibility). But, normally, such diversions are marginal.

The state financial plan

The counterpart of the balance of the population's money income and expenditure is the balance of the money income and expenditure of the state sector, which excludes current transactions between enterprises on the one hand and between other state agencies and establishments on the other. This balance, generally called the state financial plan is, basically, the reflection in money terms of the planned allocation of resources to accumulation and to social consumption and, on the income side, of the sources of finance for these various purposes: it differs from the state budget in including that part of the net income of enterprises which is not redistributed through the budget but used directly for investment or social purposes by the enterprise sector.

As has been indicated in section 2 above, by far the greater part of the "sources of finance", shown in Table 5 of Chapter IV, flows into the state budget or is retained by enterprises and co-operative farms on the basis of centrally-determined regulations governing the distribution of their earnings. The realization of these budget revenues, etc., according to plan depends, of course, on the realization of enterprises' output and profit plans. The other elements on this side of the account — mainly income-tax revenue and personal savings — depend, in the first case, on the planned level and distribution of personal income being realized and, in the second case, on the behaviour of individuals influenced by, *inter alia*, the factors discussed in connexion with the realization of the planned balance of consumers' incomes and expenditure. But these two elements are everywhere relatively small.

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[57] It is perhaps necessary to stress again that turnover taxes on consumers' goods in the centrally planned economies cannot be regarded as the exact equivalent of indirect taxes in a market economy. However, in the retail price structure in every country there are, in addition to the "normal" profit-plus-turnover-tax element reflecting the chosen means of raising budget revenue and investment finance (described in section 2), elements of discriminating indirect taxes and subsidies — some imposed deliberately for reasons of social policy, others of fluctuating magnitude (and sometimes varying from one region to another) and indicating disequilibrium between the pattern of demand and of supplies at cost-reflecting prices.

On the expenditure side of the balance, little need be said of the problem of controlling social consumption: either it is directly budget-financed or, to the extent that it is provided from decentralized funds, these can be acquired only on the basis of central regulations governing, for example, transfers of enterprise profits to the enterprise fund, and the use of such funds subject to banking or other control.

Investment plan implementation presents a more complicated problem. The national plan for fixed capital formation is, in principle, reflected in targets established through a chain of subordinate authorities out to the enterprise or local authority and matched by budget allocations and authorized retention of profits, by allocations of credit for private and co-operative construction of dwellings and by credits to, or allocations of income to the indivisible funds of, co-operative farms. It is also reflected in the plan targets for the output of the construction industry and for output of, and foreign trade in, plant and equipment.

Clearly, short-term disequilibrium in respect of fixed investments may arise as a consequence of failures to provide the planned volume of real resources when financial means have already been allocated ; but, as was noted in section 2, control of the use of investment funds by the banking system is, in general, sufficiently strict to prevent significant "leakage" to other uses. The real danger in such a situation is of inefficient use of resources within the investment sector as completion of projects is delayed, and funds are spent on those purposes for which real resources are most easily acquired rather than in accordance with plan priorities. The costlessness of investment to the investor (only recently moderated by the actual or prospective imposition of a capital charge in most countries) has encouraged this form of waste. Similarly, an undue dispersion of resources over too many projects has frequently arisen as the decentralization of investment decisions has led to loss of control over the phasing of starts on new projects, even if not over total investment expenditure.[58]

Variations in the availability of credit — whether to enterprises, collective farms or for private house building — can help to offset the effects of unplanned or imperfectly foreseen developments; but, as in other types of economy, there is frequently a considerable time-lag between adjustments of the availability of finance in the investment field and the impact of these adjustments on activity.

The general problem of control of credit from the banking system — whether for stockholding, to finance work in progress or for other purposes — has been touched upon in section 2. Reasonable flexibility is essential if unforeseen developments are not to have a quite unduly disruptive effect on the economy: the price is inevitably some weakening of short-term control over plan implementation.

The final distribution of national income

In sum, it may be said that the systems of disaggregated plan targets and of incentives described in the remainder of this chapter, and the other instruments available to the central authorities, have normally been sufficient to ensure the broad allocation of resources foreseen in the plan, though disequilibria within each main sector of expenditure have so far been more the rule than the exception in most countries. Major disasters — a particularly bad harvest or a collapse of an important export market — may require adjustments even of the priority targets of the plan ; but, within wide limits, the authorities can concentrate the adjustment to the extent desired on a particular sector or sub-sector of national expenditure (e.g. concentrate a cut in planned imports on the consumption sector, probably at the cost of strain on prices in that sector but without drawing any significant quantity of domestic resources away from investment or exports).

However, the ease with which both plan priorities and the basic proportions of the plan can be preserved in the face of unforeseen developments depends heavily on the existence of adequate stocks and/or of "reserves" in the wider sense (for example, import programmes based in total and in composition on reasonable rather than unduly optimistic estimates of export prospects and harvest results) built into the original plan. It is increasingly recognized in the countries concerned that intense overstrain built in at the planning stage cannot be fully compensated thereafter by any feasible system of management.

Finally, it should perhaps be noted in passing that, in some circumstances, the enforcement of the priority targets of the plan, even if feasible, may not be the best course. To concentrate the effects of a rise in national income smaller than planned on the consumption sector, for example, may after a certain point have adverse effects on labour incentives and productivity which do more harm to the overall growth objective than would a temporary cut in investment. Moreover, disequilibrium within a sector cannot be assumed always to be less dangerous to the achievement of plan objectives than a failure to preserve the basic proportions. A major distortion of the planned investment pattern may bring worse consequences — as recent Czechoslovak experience has shown — than would a cutting back of the total while preserving the desired pattern.

(b) The disaggregation of targets and the decentralization of management responsibilities

The process of "planning and counter-planning" — the issuing of basic directives from the centre, the subsequent submission of proposals by enterprises, etc., through intermediate authorities, up to the Planning Commission again, and the final establishment of the national plan — has been described in Chapter IV. This process is for various reasons as important, indeed more important, for the establishment of the annual plan than it is for medium-term plan preparation; *inter alia*, because the possibilities for any year are to a significant extent determined before the national plan targets have been set. Farm output is already partly determined by the autumn sowings, by the carry-over of feeding-stuffs from the previous harvest and the size and composition of the livestock population; a large number of investment projects are in process of completion and will make a certain minimum demand on resources if work already done is not to be partly wasted; long-term trade agreements and contracts have already determined a significant part of external trade; the regional distribution, and to some extent the sectoral distribution, of labour cannot be changed very abruptly; throughout the economy, production and sales contracts already commit the distribution of available resources for part of the year. Thus, the art of successful implementation of medium-term targets and objectives through annual planning consists in large part in identifying the possibilities of making changes in established trends, and in exploiting those possibilities to the extent necessary, while avoiding such abrupt changes of direction at any level as must waste resources or reduce incentives for managerial efficiency or labour productivity. To do this successfully requires both adequate communication between the central and peripheral economic organs and a successful designing of subsequent directives and incentives for decision-takers at each level of the management hierarchy.

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[58] For a detailed discussion of this problem see the SURVEY for 1962, Part 1, Chapter I, section 2, and the SURVEY for 1963, Chapter I, section 4.

The disaggregated targets

The targets transmitted from the central authorities through industrial and trade ministries and regional and local authorities and/or trusts and enterprise associations out to the individual industrial enterprise, farm, supply or procurement organization or trade enterprise can be seen as falling into two categories.

First, there are targets which represent, in principle, a disaggregation of the equivalent targets of the national plan — global output, output (in terms of quantity or value) of certain specified products or groups of products, procurements of farm produce, imports and exports in total and by commodity or commodity group and area of origin or destination, retail trade turnover by category and region, fixed capital formation, wage-fund and/or employment and average wage, sometimes (though less today than in the past) labour productivity, and the use of certain specified fuel and material inputs. Secondly, there are targets which have only a partial, or even no, direct equivalent in the national plan — for deliveries of some part of output to particular "customers", employment of particular categories of workers (technicians, apprentices, etc.), cost reduction, planned profit or more rarely planned loss (absolute or in terms of a change from the previous year or of a rate of profit on output or trade turnover), and introduction of new techniques.

In addition to targets, there are a variety of instructions to any enterprise the main purpose of which is to provide the means for, and control the way in which, the enterprise carries out its plan tasks. Among the most important of these instructions is the enterprise's financial plan, which is largely — though not entirely — a financial reflection of the targets already mentioned. It covers estimated receipts from sales or from commodity production (including production for stock), allocations for investment (from budget grants, retained profits or bank credit), for authorized working capital, for wage and premia payments, for transfers of turnover tax and profit to the budget (or receipts of subsidy from it), for transfers to the "enterprise fund" and other special funds retained by the enterprise (see section 4) and for payments for material inputs. As indicated in section 2, the carrying out of important elements of the plan is subject to control through the financial system. Moreover, special elements of control over the entries in the financial plan exist: for example, quantitative output plans must, in general, be priced at centrally-fixed enterprise prices, and the same applies to planned material inputs; the scale of inputs, in quantitative terms, that can be written into the plan in relation to planned output is governed to a significant extent by centrally-fixed "norms" (valid for the whole economy) or "normatives" fixed by the enterprise's immediately superior authority for use of materials in particular lines of production.

Clearly, it is no simple matter to ensure that the complex of plan targets and instructions facing the manager of, say, an industrial enterprise are both consistent with each other and generally reflect the enterprise's capabilities; and a vast literature on this problem, with copious illustrations of the type of inconsistencies that arise in practice, exists in every country. This has given rise to the need for a system of incentives for the management of industrial associations, trusts and enterprises (and of corresponding organizations in the construction and trade fields) to concentrate on those targets which reflect the major priorities of the national plan at a given time, if simultaneous fulfilment of all plan tasks proves impossible.

Thus, targets for the trust or enterprise can again be classified into three types: "compulsory" targets which the management must reach if it is to be able to touch premia available for success in other fields, or to avoid financial or other penalties; other premia-bearing targets; indicative targets, which may be ingredients in the initial calculation of other plan targets, but to which no rewards or penalties are attached. An example of the current complex of targets in Hungarian industry is shown in Table 1 in section 4 below.

The tendency in recent years, as already noted in section 1, has everywhere been to reduce the number of plan targets (especially "compulsory" targets) and instructions handed down by the central authorities, and also to reduce the degree of detailed administrative control (through allocation of materials, etc.) over their fulfilment. The relative emphasis given — by classification as compulsory, premium-bearing or indicative — to the various plan targets has also been tending to change.

The main compulsory and premium-bearing targets for industrial ministries, trusts and enterprises have always been related to output and, to a lesser extent, to the use of inputs. The use of material inputs has been largely controlled by the system of central allocations, strengthened by limitation of the right to use specified scarce materials and fuels, with penalties attached to exceeding the planned use without good reason (for example, equivalent over-plan output); penalties for exceeding planned employment and/or wage-fund have become increasingly common as reserves of labour have gradually become exhausted in eastern Germany, Czechoslovakia, and Hungary, as well as being imposed from time to time in other countries in periods of particular strain on the consumers' market (for example in Poland in 1962).[59] But, until recently, the level of global output at constant prices has everywhere been the primary target, and it still remains so in some countries and in some branches of industry. In others, however, the emphasis tends now to be more on deliveries (at enterprise prices) either in total or to home trade and export trade separately.[60] Compulsory targets for output of particular goods ("output in assortment" in Table 1) have been reduced greatly in number everywhere, and where they still exist tend to be linked with strict allocation to users,[61] and assortment targets linked with premia are relatively few in most countries. Over the rest of the field, the change of emphasis from global output to deliveries, where it has occurred, combined with less specification of assortment, tends to change the balance of the criteria of success for enterprise management away from "satisfying the plan" towards "satisfying the user or consumer". This tendency is being reinforced by the increasing stress on profit as a premia-bearing indicator in some countries (and the significance of profit participation in Hungary). As already noted in sections 1 and 2, the significance of pricing policies becomes greater the greater are the moves in this direction.

The problem of devising a satisfactory target and incentive system at the level of the industrial enterprise is sufficiently important to deserve an extended examination, which is contained in section 4. Planning and management in the state-farm sector are not essentially different from the systems prevailing in industry. However, the co-operative farm sector presents quite special problems which are discussed in some detail in section 5.

It should perhaps be mentioned in passing, however, that ensuring implementation of the plan for fixed investment — in total and in composition — seldom raises problems of providing an incentive for the investing enterprise (or any other investing organization except the co-operative or private farm). Since, as already noted, investment has so far been virtually costless to the investor (unless a private citizen or a co-operative), the tendency has always been towards a too great eagerness by potential investors to "get into the plan". However, difficulties have sometimes been experienced in inducing the desired level of investment in replacement and re-equipment if this has appeared likely to involve significant interruptions of production and consequential failure to fulfil output plans.[62]

The allocation of finance for investment and the control of its use have been described in sub-section (a) above. The solution to the problem of securing a corresponding allocation of real resources has been sought in most countries, first, by the central planning of major projects ("above-limit" or "centralized" investments), with detailed specifications of phasing, of materials and equipment to be used, etc.; secondly, by specifying to some extent the "real" content of decentralized investment — for example, by breaking down the "decentralized" investment target given to the Ministry of Agriculture into construction and equipment (possibly further differentiated between supplies to state farms and to collective farms) or by dividing the target for equipment for the electricity supply industry into equipment for extension and equipment for rationalization — and, thirdly, by allocating centrally a considerable proportion of total supplies of equipment (to centralized projects, to Ministries for specified purposes, to trusts. etc.).

Difficult problems also arise, however, at the level of the construction enterprise. The enterprise receives plan indicators similar to those given to industrial enterprises, global output being normally the primary target, sometimes broken down into compulsory targets for particular types of work (e.g. housing and industrial construction). These targets are based on rather detailed technical specifications of all projects in the enterprise's plan, together with an allowance for resources to be used for repair and maintenance work; and each element of cost has its standardized price.

The main difficulties have tended to arise from the fact that global output includes work in progress, for which the enterprise is paid currently, so that it is a matter of indifference to the enterprise whether its efforts are concentrated on completions of projects or on new starts. Indeed, supply conditions or other factors may sometimes make it easier to fulfil global output plans by dispersing resources over many projects than by concentrating on completions. In most countries, at various times, efforts have been made to counter such tendencies — by specifying completions and work in progress as separate compulsory indicators for housing construction or by setting targets for the phasing of major projects as separate compulsory indicators for the construction enterprise concerned. The latter method is, of course, practicable only if a single construction enterprise carries the responsibility for the whole project; and in some countries the concentration of a considerable part of the industry into a relatively few large enterprises has accordingly been undertaken. In eastern Germany, following the Soviet example, major projects are now normally the responsibility of a "general contractor" responsible for carrying the project through from the earliest stage to ultimate completion, including installation of equipment, according to a phased programme which may cover several years.

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[59] Other premium-bearing targets — cost reduction, labour productivity, technical innovation, etc. — have existed in different countries at one time or another and exist in many of them today. As is indicated below, the same targets are not necessarily set in every industry at a given time in any country: indeed some differentiation, to take account of the differing priorities and conditions for satisfying them, is common.

[60] In Hungary, indeed, the instructions to many branches of industry have recently included provision that goods produced for which there is no delivery contract with another enterprise or a trade organization not only fail to count towards plan fulfilment but may, in some circumstances, incur a penalty for the management.

[61] In Poland, for example, the Planning Commission set quantitative output targets for only 90 products in 1964; but the industrial ministries, which received these targets, multiplied this figure considerably in setting targets for their enterprises. It is hoped that the enhanced responsibilities now to be given to industrial trusts will limit this tendency (see below). In Czechoslovakia, the Planning Commission set quantitative targets for about 400 products, but again the industrial ministries multiplied this figure in setting targets for their enterprises. In this country, also, reforms now in prospect should change this situation (see below).

[62] In principle, of course, adjustment of output plans to take account of the, equally valid, re-equipment plan should be possible at the planning stage; but the strength of the incentive to exceed planned output if possible has sometimes been too strong to ensure the desired temporary priority for re-equipment.

Another problem that has arisen in this field is that of offering effective incentives for technological progress in construction. The investor, as already indicated, has virtually no interest in the cost of his investment, provided that it does not exceed the total outlay written into his plan. The construction enterprise also has little interest in cost-reducing technological progress, which may very soon produce modification of technical specifications and a reduction in the budgeted value of its projects, thus reducing its prices as well as its costs so that its profits are not increased and the achievement of planned global output may become even more difficult. Thus, development of this kind depends heavily on research conducted, and pressures for adoption of improved techniques exerted, from outside the enterprise — for example, by giving the responsible ministry or other supervisory authority an incentive to pursue innovation and cost reduction as well as fulfilment of global output targets.

In internal trade organizations and their subsidiary enterprises, by their nature, annual plan targets, instructions and incentives differ from those in industry or construction; but the principles governing them are basically similar. Volume or value of turnover, now increasingly supplemented by profit, tends to be the primary indicator in domestic trade, often supplemented by targets for purchases of particular goods and for stocks; but the trade organizations are generally being given increasing scope for seeking the assortment of goods they require in the light of their estimate of market possibilities — and here, "local" industry (subordinated, like the greater part of the retail network itself, to local and regional authorities) provides a rather flexible marginal source of supply. For supplies from "national" industry, the domestic trade organizations are, in principle, increasingly able to order the goods they require, on the basis of samples offered by the producing industry, and to refuse to accept goods for which they do not see prospective consumers' demand. However, in conditions of generally strong consumer demand, the producing enterprise tends in fact to have the upper hand and to force upon the retail trade that assortment of goods which it finds it most profitable to produce.

The increasing flexibility of pricing of consumers' goods in the retail market has already been mentioned. This gives the trade organizations and their supervising local authorities more scope for manipulating volumes and prices for sales of different goods so as to fulfil their turnover plans with greatest ease. But limits to their power of manœuvre, and to the danger of an upsetting of the national financial plan, are set by the need to conform with their general financial plans; they cannot, with impunity, fail to make their planned total profits.[63]

Within the domestic market, some products destined for consumption are still subject to allocation by region, and thus an upper limit is set to the trade organization's supply possibilities in this field. The danger of a diversion of consumer-goods covered by export plans to the domestic market is also limited in many cases by compulsory targets for export deliveries given to the producing enterprise; in others (in Hungary for example) delivery for export may carry special incentive rewards for the producer and, to some extent, the exporting trade corporations can themselves offer such incentives.[64]

The foreign trade organizations generally work on the basis of very detailed commodity import and export plans. Equipment imports or exports are normally specified very precisely: at the other extreme, plans for imports or exports of, say, clothing or woollen piece-goods may consist only of a value aggregate. The degree of specification by commodity and by country has varied considerably from country to country and from time to time; but the general tendency, not surprisingly, appears to be for a rather more detailed commodity specification of imports than of exports. While the commodity composition of the import and export programmes is subject to central approval in some detail, in Hungary, at least, the industrial Ministries, trusts and enterprises have some possibility of ordering the imported goods they desire within the limits of a foreign currency allocation, the purpose of which is specified in broad terms (e.g. minor equipment for the telecommunications industry) by the Planning Office. They can also offer goods for export.

"Compulsory quotas" (to use the Hungarian term) may be stated in terms of quantity or value of a particular commodity (or commodity group) to be imported from or exported to a stated country or area;[65] and in many cases such compulsory export quotas are reflected in equally specific delivery instructions given to a production ministry or even an individual producing enterprise. Other parts of the import or export programme are "compulsory", so far as country or area of origin or destination are concerned, only in the sense of a fairly broad distribution of values of trade by commodity group.

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[63] It may be recalled that turnover tax transfers to the budget are automatically due at the moment the transaction on which the tax is levied takes place. In most countries this is when the good is handed over by the producer to the trade network, or even earlier; the transfer of tax never depends upon the retail sale of the good to the consumer. This is again a safeguard for the general financial plan and a check upon the powers of manœuvre of the enterprises concerned: the production, or acceptance of delivery, of unsaleable goods or their sale at cut prices may result in losses or in a need for increased working capital (with financial penalties attached) *inter alia* to finance turnover tax payments which the enterprise is unable to escape once the good is produced or accepted. In Hungary, working capital required by a trade enterprise to finance excess stock-carrying may incur an interest charge as high as 36 per cent per annum on the last tranche of the excess.

[64] The possibility of special prices in Hungary has already been mentioned; in the same country the foreign trade corporations also have (very small) investment funds which they can use to provide small items of equipment, etc., to induce an industrial enterprise to produce the goods they want for export.

Within the limits set by their compulsory quotas, foreign trade enterprises are encouraged to pursue profit as measured by their accounting conventions.[66] Planned profit or planned loss is established on the basis of the commodity/country trade plan given to the enterprise (broken down into many more "indicative" or "calculation" targets than are represented by the compulsory quotas) and, as mentioned above, obligatory transfers to or from the budget are made on this basis. Limits are normally set to the enterprises' power to vary the prices they pay for imports or accept for exports, in terms of limits to the permissible percentage "loss" on the purchase or sale of any item.[67]

Premia for the management of foreign trade enterprises are normally linked to their total purchase and sales plans and fulfilment of compulsory quotas, as conditions for release of premia at all, and to profit as a determinant of the amount. But other indicators may be given importance at particular times, such as earnings or savings of specified currencies, etc. It may, however, be noted that because of the extreme sensitivity of many of these economies — Czechoslovakia, eastern Germany, Hungary and Poland in particular — to variations in the balance of payments and the level and structure of foreign trade, this is one sector in which attempts to optimize the pattern at the planning stage are particularly developed and yet direct intervention by higher authority at the stage of plan implementation is rather frequent and widespread.

The material supply system

It is perhaps at this point that some attention should be given to the system of inter-enterprise trading that transforms the planned output of some enterprises (together with imported materials, equipment and foodstuffs) into the planned current inputs or real investment resources of other enterprises or into deliveries to domestic trade or for export.

Up to about the mid-1950s in all countries of the region, a very wide range of materials and equipment was subject to central allocation by the Planning Commission — to industrial ministries, regional authorities, etc. Deliveries of products for export were similarly specified in considerable detail to the responsible industrial ministry or the agricultural procurement organization. The individual industrial enterprise normally had to submit requests to its ministry for the material inputs it needed (with only minor exceptions) and, on the basis of its approved input plans, it was then either supplied by the supply department of the ministry or authorized to contract for the necessary supplies with another enterprise. Similarly its output was either delivered to its ministry's sales organization or sold on approved contract. Supply and sales plans were broken down into quarterly or monthly periods and were subject to close supervision.

In more recent years, the tendency in all countries has been for the number of products subject to central allocation to be very greatly curtailed and for the detailed ministerial control over enterprises' supply and delivery plans to be reduced. The details of the current systems vary considerably from country to country.

In the Soviet Union, as might be expected in view of the vast size of the country, the system appears to be particularly complex; but the size of the country does not appear to be the sole reason for its complexity. As mentioned in section 2, the *Sovnarkhoz SSSR* is responsible for allocating key materials and equipment to Republican *sovnarkhozy* (and, to some extent, to major enterprises formally subordinated to them) as well as to the remaining industrial ministries and, for machinery, to building sites and to agriculture. It is particularly concerned to ensure the necessary inter-republican deliveries. Within the Republics, the Republican *sovnarkhozy* have significant allocating functions, as have their subordinate territorial authorities. As seen from the point of view of the individual enterprise, virtually all significant materials and items of equipment can be acquired only against authorization by some superior authority and the disposal of nearly all output is similarly supervised.

According to a recent writer,[69] 18,000 products were centrally planned and allocated in 1962 and "many more are planned by *sovnarkhozy*, by executive committees of local Soviets and directly by enterprises." He complains that the enterprise supply system is too complicated, not only because too many products are subject to allocation but also because too many different authorities are involved.[70] The author suggests that the scope of allocation and detailed supply planning should be reduced and that general trading organizations should distribute the greater part of the supplies required by industrial enterprises.

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[65] In Hungary at least, and probably in most other countries, compulsory quotas are particularly common in trade with the other centrally planned economies (both for imports and for exports). This reflects the prevalence of long-term bilateral agreements and contracts in this trade and the complete inconvertibility (until very recently) of their currencies.

[66] Broadly speaking, for export trade, the difference between the fixed domestic price at which the good is bought for export and the realized foreign-exchange price converted at whatever the accounting exchange rate for the currency involved may be less operating costs; for imports the accounting cost of the good includes any tariff charged and its selling price is that fixed for an equivalent domestically-produced good (or is fixed in relation to the price of some domestically-produced substitute or near-equivalent).

[67] This loss is calculated as the difference between the foreign exchange price converted to domestic currency values at the appropriate accounting exchange rate and the domestic price of the product paid (for an export) or received (for an import). For further details on the foreign trade system of these countries, see "Trade problems between countries with different economic and social systems," *Economic Bulletin for Europe*, Vol. 16, No. 2.

[69] A. Birman, *Ekonomicheskaya gazeta*, No. 13, 1963.

[70] An example is quoted of a car factory requiring ball bearings which had to complete application forms weighing 200 kilograms in total and to pass them through 14 different planning and supplying agencies.

In the eastern European countries today, allocation by the Planning Commission appears generally to cover those products for which compulsory output targets are set, together with major imported materials and items of equipment. In general, the sub-allocation of such materials to individual using enterprises is the responsibility of the industrial ministry concerned; but direct allocation by the Planning Office to major users may sometimes occur. Similarly with allocated equipment, deliveries to a particular construction site may be centrally specified, as may production of such items by a particular enterprise for export.

The above represents a summary description of the system in Hungary, for example, where, as already noted, an industrial ministry may also be allocated a "foreign exchange ration" for a limited range of imports. The forms of inter-enterprise trading in that country vary from product to product and from branch to branch. In general, the maximum quantities or values of key inputs which an enterprise may use over the year are specified in its annual plan, and for allocated products these will be compulsory targets: it submits to its superior authority (trust or ministry) its quarterly purchasing plans consistent with this annual plan and, when these are approved, it then contracts with the appropriate supplying enterprises for what it requires (or for minor items simply buys as necessary). If it later wishes to exceed its planned supplies, it must seek higher authority; and any excess use by a Ministry of an allocated product requires the approval of the Planning Office.

For some products, specialized trading companies exist in Hungary, buying all output from domestic producers (and any imports from the foreign trade corporation) and selling to all domestic users and for export. Some other products may be sold through the sales organization of the appropriate ministry or trust; others are traded directly between enterprises. Any organization selling products subject to central allocation must report to its higher authority if orders are coming in at a rate threatening to exceed its delivery plan. All such goods — and most other key products — must be contracted for well before the delivery date, and model contracts exist for each branch of industry. However, small users and small producers, even of allocated products, are left to "shop" for what they need and to sell, day to day, without being subject to compulsory input or output targets or to any formal contracting process. Within light industry in Hungary, each enterprise produces samples of its output for the home and export trade organizations, which then place orders for the year.

Among the other countries of eastern Europe the systems vary in detail, and in some of these the degree of continuous supervision or control over enterprises' supply or delivery arrangements appears to be somewhat tighter than in Hungary. In all of them, a problem exists of reconciling the central determination of the details of the annual plan with a smooth flow of supplies throughout the economy, which depends upon enterprises being able to enter into contracts for delivery some months ahead. Provided that either ample stocks exist or changes in the balance of the plan are not abrupt, the problem need not be serious; but in other circumstances it can become acute. In any event, the organization of supplies has been under heavy criticism from practically all quarters and far-going changes can be expected in the Soviet Union and in most eastern European countries in the near future.

The intermediate institutions of industrial management

The current tendency increasingly to devolve responsibility for economic management and plan implementation in industry (other than local industry) to bodies intermediate between the industrial ministry and the old-style enterprise — associations, trusts or large enterprises with subordinate plants — has been mentioned in sections 1 and 2;[71] and it represents, in most countries, a new effort to find the right compromise between devolution in the interests of micro-economic efficiency and effective central control. The process has gone much further in the eastern European countries — especially Czechoslovakia, eastern Germany, Hungary and Poland — than in the Soviet Union;[72] and all that is written in the subsequent paragraphs in this section must be taken as referring to those countries.[73]

The setting up of these intermediate bodies — enterprise associations in Poland, trusts with subordinate enterprises and large enterprises with subordinate plants in Hungary and Czechoslovakia, VVBs in eastern Germany — has generally been designed to remedy several related defects of the earlier chain of management, from the central authorities to the industrial ministry, and thus to the individual enterprise.

First, the planning authorities were too remote from enterprises. This was true even in branches naturally suited to organization in large units, such as metallurgy, with which direct contact would have been feasible and would have helped to ensure, first, that national plan targets reflected the genuine possibilities of the industrial branch concerned and, secondly, that any problems at the stage of plan implementation were resolved with minimum friction. Secondly, even the ministry itself was in many cases too remote from all but its largest enterprises to know their possibilities in detail. Moreover, it frequently had to deal with a large number of units, admittedly in the same branch, but in fact operating in very different conditions; the problems of planning and management of an enterprise producing woollen piece-goods, for example, can be very different from those of the clothing factory which uses some of them; the engineering factory producing large "tailor-made" items of equipment to order is essentially different from the one producing radios or farm machinery. But there was often a tendency for the ministry to establish rather standard targets, instructions and incentive systems for its enterprises which did not take sufficient account of their individual possibilities and problems. Day-to-day control tended, similarly, to be either too bureaucratic if the ministry "played safe" or too loose if it tried to leave as much freedom as possible to enterprise managements.

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[71] The distinction between an enterprise and a plant is that the former are separate contracting and accounting agencies; the latter have no right to contract independently and their accounting (at least in Hungary) is the concern only of the enterprise.

[72] In the Soviet Union, the 1957 reform represented a geographical rather than economic decentralization.

[73] In Bulgaria, however, the "industrial committees" have some of the same functions and the same rights independently to set targets for their subordinate enterprises, as have their counterparts elsewhere.

Thirdly, it seems to be felt that the problem of finding an acceptable compromise between planning by directives and planning by parameters can be eased if the main units of decentralized decision-taking are large trusts rather than small enterprises. It should be noted that the single-plant enterprise was justified in the period of extreme centralization, since it permitted close supervision at the least integrated level. However, in conditions of decentralization, excessive fragmentation of enterprise units would increase the difficulties of intra-industrial co-ordination and hamper the smooth functioning of integrated production processes. The multiple-plant industrial organization or enterprise may facilitate contacts between suppliers and users and permit some measure of co-ordination of supply and demand at the executive level. Moreover, the large unit can more easily be left to bear the brunt of any changes in central policy that are to its economic disadvantage than can the small enterprise. At the same time the effects of changes either in directives from the centre or in central action varying the incentives impinging on industrial management can be more easily and quickly identified.

Finally, the new system makes it easier to graduate managerial responsibilities and to use scarce talent to the best advantage.

The process of concentration reflects two tendencies: from "below", by amalgamation of single-plant enterprises, and from "above" by transformation of intermediate administrative organs into business undertakings — a type of "super-enterprise". In eastern Germany, the second tendency went so far as to result in the suppression of industrial ministries, which are still formally the superior authority for each major branch in the other countries. However, even in Hungary, where amalgamation from below prevailed, the Planning Office is in direct communication with the new trusts.

The functions and nature of the Hungarian trusts can be illustrated by reference to the Aluminium Trust (under the Ministry for Heavy Industry) which has 14 subsidiary enterprises covering the whole branch; these include alumina plants, smelters, enterprises producing semi-manufactures, research institutes, a geological survey organization, and supply and home and export sales organizations.[74] In turn, the trust knows its subsidiary enterprises in detail. It receives its annual plan targets, after consultation with the Ministry for Heavy Industry and the Planning Office, some of which are compulsory, some carry premia and some are purely indicative. It is then responsible, under the general supervision of the Ministry, for passing down targets and instructions to its enterprises in such a way as to ensure fulfilment of the compulsory and premia-bearing targets for the trust as a whole. But the trust has virtually complete freedom to decide what targets to pass down to each individual enterprise. It may in any given case set more, fewer or different compulsory targets than it has itself received for output or for inputs. It is also free, if it wishes, to set output targets adding up to more than the aggregate target for the trust, as a form of insurance;[75] it can, conversely, under-allocate both authorized employment (and/or wage-bill) and material inputs at the beginning of the year, holding reserves to be thrown in to relieve any shortages appearing at vital points later in the plan period (ministries have the same powers in handing targets down to their trusts and enterprises).

The trust in Hungary is also responsible, subject to the general supervision of the Ministry, for determining how the part of the premium fund available to the management of an individual enterprise shall be tied to the various plan indicators. This portion of the fund has two parts; the first, tied to plan targets by the responsible Ministry, is available for managerial staff of both the trust and its subordinate enterprises and is released in accordance with the results of the trust as a whole; the second part, available to the management of the subordinate enterprises only, is tied to the enterprises' targets by the trust.[76]

The trust normally either undertakes the purchasing of the main material inputs for its subordinate enterprises or, at least, supervises their contracting for such supplies; and it similarly disposes of, or supervises the disposal of, key products. However, the degree of concentration of trading at the level of the trust, as compared with the enterprise, varies from product to product and from one branch of industry to another (see also below).

Any trust in Hungary will normally have some part of its investment centrally determined ("above-limit" projects). Other investment is covered by a financial allocation with little or no specification by type of investment. The trust is responsible for allocating this investment among its subordinate enterprises; the latter have no autonomy at all in the field of new investment and the trust can even redistribute a part of their amortization funds.

In Poland, also, the industrial association, trust or large enterprise with subordinate plants is intended to be the main unit of industrial management in future. It seems that a rather greater variety of form of organization is in prospect in this country than in Hungary, some of the Polish "associations" being of a rather loose construction. The degree of autonomy of the subordinate enterprise will thus vary somewhat from branch to branch; but, in general, it seems that, as in Hungary, the trusts or associations will have considerable responsibility for determining plan targets for their subordinate enterprises. One current difference from the Hungarian system, however, is that if "compulsory indicators" are given by the Planning Commission to the Ministry — for example, for employment — the same indicators must be passed on as "compulsory" also to trusts and enterprises, although at each stage a "reserve" of unallocated employment may — and should — be held back at the beginning of the year for release against special later needs. The trusts and associations will be responsible for all "decentralized" investment within their field. They will also bear the main responsibility for ensuring material supplies and for disposal of output, though not necessarily undertaking all trading themselves; direct contracting by enterprises is to be encouraged, though subject to supervision by the trust or association so far as products of major importance are concerned.

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[74] The export sales organization is an adviser to the appropriate foreign trade organization as well as being concerned to assure the necessary deliveries from domestic production: the home sales organization also deals with transport for the trust and its enterprises.

[75] This practice — by ministries as well as by industrial associations or trusts — is widespread throughout the countries under review; it is also widely deprecated as tending to intensify strains in the economy.

[76] There is also a third part of the fund at the disposal of the enterprise director, for rewarding managerial and technical staff within the enterprise (see section 4); the director must, however, keep the trust informed of his allocation of these premia. For the management of both trusts and enterprises, premia are limited to 15-40 per cent of basic salary (the precise limit depending on the post).

In eastern Germany, the VVBs group all enterprises except those of "local" industry (accounting for 30 per cent of all industrial output). They are completely responsible for the setting of targets for, and the general management of, their subordinate enterprises. The VVB undertakes all investment in its branch and the larger part of all purchasing of supplies and sales of output, and it is responsible also for reasearch and technical development. Increasingly, profitability is becoming the main criterion of success for the VVBs, and the basis of premia for their managements.

The reform proposed in Czechoslovakia

The deep reorganization of the Czechoslovak management system currently under way is also associated with a process of concentration going beyond the 1958-1959 reform which created the Economic Production Units.

The basic unit of management in industry will be the combine (a large enterprise with subordinate plants) or the trust grouping the enterprises of a given branch; and the latter will be the more common form of organization. The directorate of the combine or trust will control producing enterprises or plants, supply and sales organizations, and research institutes. Where appropriate, they will operate their own retail outlets. The directorates will have considerable freedom to determine how much autonomy to permit their subordinate units.

It may be worth noting that the changes envisaged in Czechoslovakia, and the less far-reaching reorganizations of industrial planning and management undertaken in other countries, represent a decentralization of decision-making in a rather special sense. The role of ministries is everywhere being reduced, but so is the degree of autonomy earlier conceded — in principle if not always in fact — to the individual enterprise. The new systems are firmly based on a monopolistic or oligopolistic industrial structure and, as the Czechoslovak authorities have clearly realized, all steps towards further devolution of economic decision-making from the central authorities to the industrial organizations have to be accompanied by careful consideration of the possible need to guard against attempts by these organizations to exploit their monopoly power.[78a]

[78a] See also the SURVEY for 1964, Chapter I, section 7.

4. THE ROLE OF THE INDUSTRIAL ENTERPRISE

In the last resort, the implementation of the national plan depends upon the enterprise — the response of its management to the directives received from above and to the other stimuli incorporated in the system of management of the economy, and on the response of the individual workers and employees of the enterprise to the material and other incentives offered to them. It was noted in section 1 above that, even in an economy managed on the basis of very detailed and comprehensive directives from the centre, some indication of priorities and some form of incentive for enterprise managements to observe them is likely to prove necessary, in view of the practical impossibility of centrally establishing targets and directives, covering every significant aspect of the enterprise's operations, which are both feasible and mutually consistent. But as economies move towards higher levels of economic development, and thus become increasingly complex, as full employment of labour and other resources is attained and considerations of both macro-economic and micro-economic efficiency of use of resources command more attention, decentralization of responsibility for economic decisions becomes increasingly necessary, and the devising of adequate incentives to guide those decisions in directions conforming with the national plan objectives acquires a crucial importance.

This section is concerned with the industrial enterprise, its role in the system of economic management, and the problem of incentives at the enterprise level.

Up to about the mid-1950s, the role and characteristics of the industrial enterprise throughout the region were basically similar to those which had evolved in the Soviet Union. In subsequent years there has been a common tendency towards some decentralization of economic decisions making, first from the central organs of planning and management and the industrial ministries to regional and local authorities and the individual enterprise. In most countries some tendencies towards re-centralization occured briefly thereafter; but today the general trend appears again to be towards decentralization, both to the industrial association (or trust) and to the individual enterprise. Despite these common general tendencies, the years since the mid-1950s have in most eastern European countries been a period of almost continuous experiment, resulting in the appearance of significant differences of detailed practice from one country to another. These differences have been apparent not only in the extent of the devolution of responsibility from the centre to the periphery and in the details of the decisions devolved to enterprise managements, but also in the details of the incentive systems established to guide those decisions.

It is clear that the period of experiment is by no means completed at the time of writing this study. As was mentioned in section 3, a major reorganization of the system of economic planning and management appears to be in prospect in Czechoslovakia. There, and in the other countries of the area, the major issues — the desirable extent of decentralization, the criteria for measuring the "success" of the enterprise or trust, the desirability and effectiveness of different types of incentive for management and for workers — are still the subject of lively discussion.[77]

Thus, the description of the current situation given below should be seen as that of one stage in a process of transition. In order to appreciate the problems which the Governments concerned are trying to solve, it is useful to consider first what may be called the "classical" model of the enterprise in a highly centralized economy, corresponding basically to the standard system in the Soviet Union and eastern Europe prior to the mid-1950s. This is the standard from which the present models in the eastern European countries have evolved, and their current forms are largely the result of attempts to remedy the shortcomings of the old model.

(a) The enterprise in a highly centralized economy (the Soviet enterprise)

The financial organization

It is possible to envisage a "perfectly centralized" planned economy, in which the enterprise director is no more than a minor executive arm of the central planning authority, with no powers of decision or even of initiative. No such economy has ever existed in practice, although the system in force for a short time in some Soviet industries before the introduction of *khozraschet* or "autonomous economic accounting" was not very far removed from it — at least in principle.

Until the early 1930s only some enterprises in light industry were on "commercial accounting", as it was then called; most state enterprises owned no funds, and their expenses were met directly from the state budget in the same way as educational or health establishments are now run in the centrally planned and in many market economies. Following the resolutions of the Central Committee of the Communist Party in December 1929, however, the system of *khozraschet* was generalized. This system has been defined as "a method of socialist management . . . the principal requirement of which is that the expenses of an enterprise are covered by its revenues from sales at planned prices so as to ensure profit and rentability".[78] It has been officially recognized as necessary during the "socialist" stage of economic development, during which "commodity (market) relations" persist in the economy, and as practically useful in that it facilitates "control by the rouble", exercised principally by the State Bank.[79] It forces the enterprise management to watch the financial aspects of the working of the enterprise, to compare the money intake with money expenditure and encourages it to regard cost-reduction and the increase of profit as desirable objectives.[80] It is also clear that some degree of financial autonomy for the enterprise is indispensable if the criteria of "success" are to be related to profit or cost reduction.[81]

The introduction of the *khozraschet* principle did not, however, invest the Soviet enterprise with a degree of financial self-reliance and autonomy comparable with that of a capitalist enterprise, or even with that of the type of enterprise established in Yugoslavia. It has not been unusual, and for a long period was not considered particularly undesirable, for many enterprises, or even whole industrial branches, to operate on the basis of regular subsidies from the state budget. The Soviet-type enterprise can use the funds it acquires — whether from sales of its output or from the budget — only within the limits set by its plan targets and instructions,[82] and its investment activity is still mainly budget-financed (directly or on the basis of centrally authorized profit retention). Moreover, profitability (or the reduction of losses) was for long only a very minor indicator of success for the enterprise, with a negligible influence on the determination either of the level and structure of output or of the choice of inputs; and in the Soviet Union this remains broadly true today.

The plan targets

The operations of an enterprise are governed over the year by a variety of targets, instructions and commands, referred to in aggregate as the "technical-industrial-financial plan" or, in the Soviet Union, as the *tekhpromfinplan*. As a rule, this comprises the output plan; the plan for development and introduction of new techniques; the plan for capital construction and installation of productive capacities; the plan for capital repairs; the plan for material-technical supplies; the plan for employment and wages; the cost plan; and the financial plan.[83]

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[77] Although the general trend at present appears to be towards greater autonomy for the industrial trust or enterprise, it is not universally accepted that the weaknesses of the existing elements of centralized planning and management cannot be cured and that the only solution to the problems they create is greater autonomy for the peripheral economic units. A contrary view is that more attention should be given to increasing the effectiveness of direct planning and control through "parameter planning" and the application of econometric models and optimization procedures in general (see, for example, a summary of fairly recent discussion in Poland by B. Blass, *Ekonomista*, No. 5, 1963).

[78] P. P. Pshenichnyi and I. A. Usatov (ed.), *Ekonomika i finansy sotsialisticheskikh predpriyatii*, Moscow 1962, p. 157.

[79] The supervisory role of the Bank, as was indicated in section 2, is a continuous function involving a day-to-day surveillance of enterprise activity.

[80] The following categories are distinguished on the revenue side of the accounts of a Soviet enterprise: "Gross revenue of the enterprise" (*valovaya vyruchka*) which includes not only proceeds from sales but also receipts from non-productive activities, such as payments by personnel for the use of housing and other social facilities provided for it by the enterprise. The subtraction from the "gross revenue" of expenditure on material inputs leaves an aggregate known as "gross income of the enterprise" (*valovoi dokhod*), which covers the wage-bill and financial accumulation. The latter is referred to as "net income" (*chistyi dokhod*) and has to cover the turnover tax and profit. Profit or the "net income of the enterprise" is partly for enterprise needs (expansion of working capital, financing of investment, setting up of premia funds, etc.) and is partly transferred to the state budget. (Pshenichnyi and Usatov, *op. cit.*, p. 137.)

[81] E. L. Shister, *Vnutrizavodskoi khozraschet i ekonomia obshchestvennogo truda*, Moscow 1962, p. 5.

[82] For instance, the order of priorities for the disposal of receipts is firmly established as follows: 1) wages; 2) transfers to the state budget; 3) to contractors; and 4) to the state bank (A. Birman, *Planovoe khozyaistvo*, No. 3, 1963, p. 15).

The principal task of an industrial enterprise is to produce; and the output plan — in quantitative and, when applicable, in qualitative terms — has until very recently been at the centre of the attention of the enterprise management. Output plans usually include two value aggregates: global value of production (*valovaya produktsia*) and the value of commodity output (*tovarnaya produktsia*). The latter has been defined as the sum of "the value of finished and semi-finished goods destined for sale and of industrial services rendered".[84] Global output includes, in addition to the value of commodity output, the cost of self-consumed output, changes in the value of work in progress, and the cost of processing materials supplied by customers, and is expressed at the constant wholesale prices of the enterprise;[85] commodity output is valued at the actual wholesale prices at which it is sold and constitutes the basis for the calculation of profit and rentability. The methods of calculating the volume of output have an important bearing on the efficiency of the incentive systems, as is shown below.[86]

Whenever feasible, quality indicators are incorporated into the output plan. In engineering this takes the form of descriptive standards or technical characteristics of the product-mix. In the light, food, and other consumer-goods industries, quality is looked after by an assortment plan, which specifies the desired quantity of output at various quality grades. A coefficient of assortment is sometimes computed for control purposes, based on the weighted average relative price of goods produced; this can be compared with a planned coefficient and/or with one calculated for a preceding period to indicate the trend in quality.

The part of the *tekhpromfinplan* covering the tasks envisaged for the development and installation of new techniques, and for improvement in organization, is a mixture of quantitative and qualitative indicators. A set of specific guiding instructions is often supported by quantitative output targets for new products and for mechanization and automation of productive processes. These tasks are closely linked to the investment programme which includes outlays on new equipment, modernization and capital repairs. A comprehensive investment plan details time-schedules for commencement and completion of projects, sources of finance, and material and labour requirements.

The needs of the enterprise for materials, fuel and energy are defined by use-norms or technical coefficients, and a plan target for reduction of costs should serve as an additional protection against wasteful use of resources. The current-stocks plan (*tekushchye zapasy*) takes into account the needs for material inputs during the expected intervals between consecutive deliveries, whereas reserves (*strakhovye zapasy*) are allowed in anticipation of bottlenecks in supply and are calculated on the basis of the average deviation of actual deliveries from those planned. The manpower plan lists the number of workers and average wage in each skill grade, as well as the overall wage-fund. In conjunction with the planned output data, the employment plan provides a target for the increase in labour productivity; a programme of vocational training constitutes a part of the manpower plan in bigger enterprises.

Lastly, the financial plan expresses in money terms the plan data on output and inputs, and thus provides a planned balance of receipts and expenditures of the enterprise. The difference, after deduction of taxes and other dues paid to the state, is the planned profit.

The acquisition of inputs

The Soviet enterprise is — in principle — not only told what to produce and how, but its access to the means for achieving these ends is, to a large extent, directly controlled. Both fixed and working capital are allocated to the enterprise by the superior planning authority, and since 1957 plans for material supplies to enterprises have been determined by *sovnarkhozy* and by ministries and departments of republics. These agencies send to enterprises a notification of availabilities (*izveshchenye*), framed in broad terms, and receive in return from the enterprise specific orders (*zayavka*) containing details of the required assortment, size and timing of delivery, etc. On the basis of these detailed demands, allocation orders (*naryad*) are issued both to the delivering enterprise or agency, and to the purchaser. For products included in the inter-republican delivery plans, allocation orders are issued by the supply agencies (*glavsnabsbyt*) of the USSR Gosplan. Intra-republic supplies are regulated by the supply agencies of the republican Gosplans. The issue of a *naryad* is followed by the negotiation of a contract between the purchasing enterprise and either the delivering enterprise or the supply agency, depending on the commodity; and contracts involving relations between economic-administrative zones and between republics and other contracts "of national importance" can only be concluded with the central supplying agencies. As a rule, contracts are concluded for one year only, but a usual procedure is to extend existing contracts. Enterprises and organizations thereafter have no right to deliver goods without a contract or without an order.[87] The contract also specifies, in addition to quantities, the grades, sizes, qualities, technical characteristics, timing of delivery and price; conformity with the terms of the contract is enforced by financial sanctions.

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[83] Pshenichnyi and Usatov, *op. cit.*, p. 39. By the end of the Soviet First Five-Year Plan the technical-industrial-financial plan replaced the industrial-financial plan previously used, as the latter apparently had not placed sufficient stress on raising productivity by the use of better equipment and improved organization of work.

[84] *Ibid.*, p. 39. Only those semi-finished goods are counted which can be used as inputs by other enterprises. Industrial services include services rendered to third parties, and capital and current repairs.

[85] To be distinguished from the wholesale prices of industry, the latter including the value of the turnover tax, if any. The price charged to the customer includes also a small trade-cost margin.

[86] In some Soviet industrial branches (for instance ready-made clothing) output targets have now been introduced based on normative costs of processing, excluding expenditure on material input. On an experimental basis, the normative cost of processing replaced the global value of output in all enterprises of the *Tatar sovnarkhoz* and several enterprises in other *sovnarkhozy* in 1963. (*Kommunist*, No. 5, 1964, p. 91.)

[87] This prohibition aims in part at protecting subordinate enterprises and trading organizations against the imposition of unwanted materials or goods.

In actual practice, however, the apparent rigidity of the system with regard to the supply of inputs is relaxed by a number of factors. First, recruitment of labour is left almost entirely at the discretion of the enterprise director. Apart from the initial assignments of University graduates and some other school leavers and trainees, freedom of civilian labour movement is almost complete,[88] and the methods of recruitment of labour in a centrally planned economy are little different from those of a market economy. Within the overall employment and wage-plans, Soviet enterprises can and do bid for labour; and in practice the room for manœuvre is greater than foreseen by the system, since it has proved difficult to control the employment and wage-plans. Secondly, at least a small part of investment resources is within the area of enterprise decision. This is true of the enterprise fund, fed from planned and over-plan profits, which is used to finance investment in social or cultural amenities and also, in the Soviet Union, some part of technical innovation.[89] Also a part of the amortization fund destined for capital repairs and modernization of equipment is at the disposal of the management and is often — sometimes not quite legally — used for new investment. Moreover, since 1955 limited short-term credits have been made available to Soviet enterprises to cover the cost of introduction of new techniques; although this source has never assumed very great importance on the national scale, it has certainly benefited some enterprises significantly.

Even though the initiative of the enterprise has been, and remains, more limited with regard to the choice of material inputs than with regard to labour, the stringent organization of procurements has never been completely comprehensive. Some materials could always be obtained without going through the whole formal procedure of acquisition; and in the priority sectors of the economy a considerable flexibility of supplies was tolerated, in the sense that enterprises in these sectors were often permitted to exceed their original norms and plans. Moreover, whenever supplies were uncertain, hoarding of materials tended to develop, and this also gave enterprises some room for manœuvre in the short-term. Finally, some semi-legal procurement arrangements have long been in force, which enable special contact or middlemen (*tolkachi*) to obtain, by acquaintance, influence or barter, materials or goods which were otherwise unobtainable or difficult to secure.

It follows from the strict control of material supplies to enterprises that the freedom of an enterprise to dispose of its output was also strictly limited. Thus the limitations on the freedom to choose inputs or to dispose of output, combined with the rigid centralized control of prices, meant that profitability could hardly be used as a criterion of enterprise success under the highly-centralized system.

(b) The post-1955 departures from the highly-centralized model

The summary description given above of the system of detailed targets, directives and controls which hedged in the director of a Soviet — or of an eastern European — enterprise up to about the mid-1950s cannot be taken as applying to every enterprise or every branch of industry even at that time. Large enterprises directly subordinated to central authority were always in a different position from small enterprises under local subordination, and heavy industry was in some respects treated differently from some consumer-goods branches. Such differences appeared both in the content of the *tekhpromfinplan* and in the relative weights assigned to the various targets within it. Moreover, the strength of the enterprise *vis-à-vis* the superior authorities has always (and everywhere) been also a function of such variables as the personality and the political and social standing of its director, and of the "distance from Moscow".[90]

The post-1955 departures from the earlier model have been concentrated on two issues: the number and nature of plan targets; and their links with the mode of remuneration, and the powers, of the director. In the Soviet Union, stress was first placed on the latter point and in August 1955, a decree was issued "on the extension of rights of enterprise directors". The director was required to confirm the qualitative and quantitative targets of the final version of the *tekhpromfinplan*, and in the implementation stage his rights to exercise some discretion within the overall plan targets were broadened. For instance, he can now accept orders from other enterprises or organizations for production of some semi-finished goods and of spare parts to be made from their own or other materials, provided the planned output does not suffer as a result. He has some freedom to price goods and services produced by the enterprise for its own investment programme or other needs. Subject to certain conditions, he may influence the timing of the introduction of new capacities and acquire building materials produced by local industries. He has some rights to dispose of surplus stocks of materials, tools and transport equipment. Within the funds allocated for this purpose, he may acquire special equipment, instruments and materials for research work and design experiments.[91]

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[88] The 1940 decree in the Soviet Union, which severely limited mobility of labour, was formally repealed in 1955, but in fact had lost its force almost immediately after the war.

[89] In countries where the enterprise fund is not used for investment projects at all, a special fund is sometimes created for the purpose. In Hungary, for instance, this role has been played since 1955 by the "enterprise development fund" which is financed from a part of the over-plan profit (B. Bagota, *Planovoe khozyaistvo*, No. 10, 1963, p. 68).

[90] The principle of *edinonachalye* or one-man rule, which superseded the early attempts to run the enterprise collectively, has been somewhat affected — though to a varying degree — by the establishment in various countries, as a part of the new economic model, of "workers'" or "productive" councils. This development was relatively unimportant in the Soviet Union, but significant in the short-lived Polish experiment of 1957.

[91] A. R. Sochinski, *Osnovy organizatsii promyshlennogo predpryatiya*, Moscow 1962, pp. 48-49.

TABLE 1

Plan indicators in Hungarian enterprises (based on a sample survey carried out by the State Planning Office in 1963)

I = plan targets linked to incentives S = targets subject to sanction O = indicative targets

Industrial branch or enterprise	Global value of output [a]	Output in assortment	Deliveries to: Export markets	Deliveries to: Home market	Input norms (materials)	Employment	Wage-fund	Average wage (workers)	Average salary (employees)	Premia for employees	Cost level
Ministry of Metallurgy & Engineering											
Machine building	O	S	I, S	S	O	S	O	S	S		I, S
Cars and tractors	O	S	I, S	S	O	S	S	S	S		I
Metallurgy	I	I	I	I		S	O	S	S		I
Ministry of Light Industry											
Cotton Printing Company		I	I, S	I	S			S	S	S	[b]
Haberdashery — Trust	O	I	I	I	S			S	S	S	[b]
— Company			I	I	S			S	S	S	[b]
Leather Dressing Company		S	S		S			S	S	S	[b]
Printing — Trust		I	I	I	S		S	S	S	S	[b]
— Company		I	I	I	S		S	S	S	S	[b]
Ministry of Heavy Industry											
Mecsek Coal Mining Trust	O	I			O		S	S	S	S	
Ore & Mineral Mining Company	I	O	S	O	O		S	S	S	S	I
National electricity works	O	O	O		O		S	S	S	S	I
Power plants	O	O			O	O	O				I
Distributors	O				O	O	S				I
Rubber Manufacturing Company	O	O	I	O	O		S	S	S	S	I
Chemical Trust	O	I	O	O	O		S	S	S	S	I
Borsod Chemical Plant	O	I	O		O		S	S	S		I
Ministry of Building & Construction											
Trusts and National Companies	O		I	I	I		S				I
Enterprises of the Quarrying Trust	O	I			O		S	O			I
Industrial enterprises of the Ministry	I	I			I		S				
Ministry of Food											
Trusts & National Enterprises	I	I	I	S	I		S	O	O		I
Enterprises of the Canning Trusts	I	I	I	I							I
Enterprises of the Dairy Trust	O	O	I	O			S				I

Source : Direct communication from the Hungarian Government.

NOTE. — Additional targets not mentioned in the table include: labour productivity in metallurgy (S), coal-mining (S) and the food industry (I); quality of output in coal-mining (I), construction (I) and quarrying (S); technical development tasks in machine-building (I, S) and automobile industry (I, S).

[a] At factory prices (i.e. excluding turnover tax).

[b] Only so far as it affects profits and profit-participation schemes.

The second general direction of reform, particularly significant in some eastern European countries, has involved a reduction in the number and degree of specification of plan targets transmitted to the enterprise from above, combined with an attempt to replace some central directives or targets by synthetic indicators of the success of the enterprise. Thirdly, as the number of detailed directives given to the enterprise has been reduced and the responsibilities of the director have been augmented, the appropriate linking of the remuneration of management with the achievement of priority targets or with the synthetic indicators of success has assumed an increasing importance as a means of inducing greater micro-economic efficiency of enterprise management combined with conformity with national plan objectives.[92]

The evolution of the system of material incentives is described below. Another development which deserves mention here is the increasing elasticity of the planning and management system, in the sense of a much greater differentiation in the relative significance attached to the different targets for input, output, deliveries, investment, profitability, etc. from one branch of industry (or even one enterprise) to another. This is particularly apparent in Hungary, where a survey by the State Planning Office in 1963 showed great differences from one branch of industry to another in the "compulsory" targets (those linked to sanctions for non-fulfilment or which have to be achieved before any premia can be earned by the enterprise management), other targets linked with material incentives, and those "targets" which were purely indicative of the planning authorities, assessment of possibilities. As can be seen from the summary of the results of the survey given in Table 1, global value of output is now of little importance in the enterprises of light industry, and it is rarely "compulsory" in other industries; on the other hand, there are sanctions for exceeding material-input norms, in the light industries but not in the heavy industries; the fulfilment of delivery targets is rewarded in almost all industries other than heavy industry; reduction of cost does not enter the plans of enterprises in light industry, but is a target for some others.

(c) The role of material incentives

The need for incentives

The successful functioning of any enterprise, socialist or capitalist, depends on the proficiency and willingness to work of the entire staff, from the unskilled labourer to the director; but, naturally, the nature of the contribution and its weight varies from one category of personnel to another. Broadly, for manual workers and for most grades of non-manual employees, the chief requirement for efficient performance is a high degree of intensity of individual effort; and for these categories of workers, the system of material incentives prevailing in the centrally planned economies is not basically different from that in market economies, both relying on wage differentials, piece-rates, and bonuses.

But the criteria for good management are in many respects different in the two systems. The main objective of a privately-owned enterprise in a market economy is to make profits. To do this the management must exercise some of the same skills (for example, in recruiting and managing the labour force) as are required in the management of an enterprise in a centrally-planned economy and some for which the latter economy offers less scope (choice of the level and pattern of inputs of labour, materials and capital, choice of the level and pattern of output). But, however multifarious the elements of successful enterprise management in a market economy, the ultimate measure of success is basically a single "synthetic indicator" of profitability; and this is also directly linked with the material reward of management — or at least of ownership.[93]

A good management in the centrally planned economies, however, is essentially one which achieves the plan targets handed to the enterprise by the higher agencies of planning and management. These targets may include profit maximization; but normally there will be others. The multiplicity of targets both sets much narrower limits to the powers of manœuvre of the enterprise management than those normally affecting management in a market economy, and also prevents any single synthetic indicator from being acceptable as the criterion of success in meeting the wishes of the planning authorities. This in itself would complicate the problem of devising an effective incentive system; but a still greater difficulty arises from the fact, already mentioned, that frequently not all plan targets are completely feasible or mutually consistent. Thus, what may appear to be — and are discussed below essentially as — weaknesses of the incentive systems may be simply another aspect of weaknesses in the planning machinery itself.[94]

Before attempting to appraise the systems of material incentives, however, it must be noted that non-material (or social) incentives are also of some importance. In any type of economy this tends to be so; and consciousness of success, the enjoyment of reputation and of responsibility may often outweigh — at least beyond a certain point — interest in material rewards. In the centrally planned economies, the appeal to "social consciousness" and to the idea that what is good for society is also good for the individual has certainly affected the professional behaviour of all categories of workers and employees, including managers. "Socialist competition" has, since the beginning of the system, been one of the successful forms of exhortation to greater effort, together with the *stakhanovite* or other similar movements. As in market economies, the prestige of the job, bringing with it respect as well as better prospects of advancement, is a valid factor of motivation; and it can be argued that the conditions of rapid economic development prevailing in the centrally planned economies accentuate the weight of such factors by providing wider opportunities for social advancement.

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[92] For a fuller discussion of decentralization measures, including those increasing the autonomy of individual enterprises, undertaken by the Soviet Union and some eastern European countries in the years 1955 to 1957, see the SURVEY for 1956, Chapter I, section 7, and the SURVEY for 1957, Chapter I, section 6.

[93] There may in fact be differences of interest between managers and owners, where these are different individuals, and a problem of providing an incentive system for managers which reconciles the two interests may exist. There are also analogies between the problems of success criteria and management incentives in the nationalized industries in a market economy and those that arise in the centrally planned economies (see J. S. Berliner, "Managerial incentives and decision making", in *A comparison of the United States and the Soviet Union*, 86th Congress, 1st Session, Joint Committee Print, Washington 1959).

[94] Thus it tends to be easier to devise a satisfactory system of incentives for the basic industries where output and input are homogeneous and easily identifiable, quantifiable and controllable than in the consumer-goods branches, where directives and controls cannot be so specific and the danger of conflicts between the "demands" of the plan and of the consumer is greater. In the latter branches the need for an effective system of incentives to take the place that can be given to direct controls in the basic industries is particularly great, yet the problem of linking incentives and targets is particularly acute.

Nevertheless, experience has shown that complete reliance on social incentives is ineffectual, and Lenin's dictum is now often quoted to the effect that communism cannot be built solely on enthusiasm but also requires a personal incentive of a material character.[95] The need for a comprehensive system of material incentives applied to the relations between the state and the enterprise is explained by the fact that "although in a socialist society there are no antagonistic conflicts, there are some conflicts of non-antagonistic character between the interests of society as a whole and those of individual enterprises, ministries or persons", and that often "narrow departmental or regional interests contradict national objectives", and an efficient system of material incentives is required to counteract such tendencies.[96] What is sought is a system in which "what is good for the national economy would be good for the enterprise, and what is good for the enterprise would also be good for its workers, by tangibly affecting their rewards".[97]

Material incentives for the general labour force

In centrally planned as in market economies, the basic element of the system of material incentives for the labour force in general is the differentiation of earnings by skill and by intensity of labour input.[98] Actual developments in the Soviet Union up to the mid-1950s led to some over-emphasis of the latter, and one of the major aims of the comprehensive reform of the Soviet wage system started in 1956, and followed in its broad outline by most eastern European countries, has been some readjustment in favour of skill. Nevertheless, more than two-thirds of the manual workers in Soviet industry are still on a piece-rate system of remuneration,[99] which is largely associated with stress on the intensity of effort. Although piece-rates vary according to skill-grades, the piece-rate system is usually combined with the payment of premia for over-fulfilment of work-norms, so that a considerable increase in total earnings can usually be obtained through more intensive work.[100] Most non-manual workers are on the time-system (usually also combined with premia) and this method is also generally applied to manual workers in auxiliary occupations (intra-enterprise transport, repair shops, etc.) where determination of the work-norm is difficult.

The weight given to skills or qualifications is inversely related to the share of basic wages in total earnings. As labour productivity increases whilst work-norms tend to remain static, it becomes progressively easier to over-fulfil the output plans and the share of basic wages declines. There is thus a periodic need to revise work-norms and to re-establish the desired ratios, and such reforms took place in the Soviet Union and in most eastern European countries in the late 1950s or early 1960s.[101] The relevant problem for manpower planners is to find an optimum composition of total earnings, at which the share of basic wages would be high enough to allow for a meaningful differentiation of wages by skill, but

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[95] See, for instance, I. Usatov, in *Voprosy ekonomiki*, No. 6, 1958, p. 75.

[96] F. S. Veselkov, *Materialnoe stimulirovanie trudyashchykhsya v SSSR*, Moscow 1962, pp. 42 and 43.

[97] B. Sukharevski, Deputy Chairman of the Soviet State Committee on Labour and Wages, *Ekonomicheskaya gazeta*, No. 11, 1964. According to S. Jedrychowski, the Chairman of the Polish Planning Commission, the crux of the matter is "how to direct into one channel and harmonize the planning from the centre with the initiative of the enterprise coming from below" (*Nowe drogi*, No. 1, 1964, p. 94).

[98] "The Communist Party and the Soviet Government establish wages of workers and employees, as well as payments for the labour of collective farmers, in such a way that a greater quantity of labour brings a higher reward. Skilled labour, representing complex labour, is paid better than unskilled" (P. F. Petrochenko [Editor], *Organizatsiya i normirovanie truda na promyshlennykh predpriyatiakh*, Moscow 1962, p. 150). Egalitarian principles of income distribution were short-lived in the Soviet Union: they were condemned already during the first Five-year Plan, and Lenin is quoted as having said as early as 1921 that "distribution of consumption is a method, an instrument, a means for increasing output" (*Voprosy ekonomiki*, No. 1, 1959, p. 36).

[99] The proportion was about three-fourths before the reform (V. F. Mayer, *Zarabotnaya plata v period perekhoda k kommunizmu*, Moscow 1963, p. 161).

[100] This link is direct in the case of individual piece-rates or indirect when premia are granted for the fulfilment and over-fulfilment of the output plan of the enterprise. In the former case, the following formula is generally applied:

$$E = E_b + \frac{E_b\,(P_1 + P_2 \cdot O)}{100}$$

where E = total earnings
E_b = basic piece-rate earnings
P_1 = premium coefficient for fulfilment of plan
P_2 = premium coefficient for each percentage of over-fulfilment of plan
O = percentage of over-fulfilment of plan

Basic piece-rate earnings (E_b) are calculated as follows:

$$E_b = \frac{R \cdot Q}{N}$$

where R = daily tariff rate (according to the grade of work)
N = output norm per shift
Q = actual output during the month

Source: S. Kh. Guryanov, I. A. Polyakov and K. C. Remizov, *Spravochnik ekonomista po trudu*, Moscow 1962, pp. 64, 66 and 69.

[101] Before the 1956 reform, the share of basic wages in total earnings varied from 40 to 75 per cent among Soviet industrial branches (individual variation was of course much wider). The combination of increased basic rates with the elimination of steeply progressive premia for over-fulfilled output targets and with some increase in the work-norms, increased this share from an average of 50 per cent to 75 per cent among the piece-rate workers, and from 75 per cent to more than 80 per cent for those on time-rates (Mayer, *op. cit.*, p. 155).

low enough to leave sufficient room for bonuses and premia rewarding special intensity of labour and/or a high quality of work.

The practice of payment of bonuses to individual workers for over-fulfilment of work-norms is common to all centrally planned economies. It is usually controlled centrally by strict regulations governing the right of the enterprise to exceed its wage-bill target following on the over-fulfilment of the output plan; in Soviet industry, this coefficient of adjustment varies, according to industrial branch, between 0.6 per cent and 0.9 per cent for each one per cent over-fulfilment of output.[102]

As a rule, basic earnings (inclusive of the special bonuses just mentioned) reward the fulfilment or over-fulfilment of the quantity indicators by the workers or by the collective. The principal objective of premia, on the other hand, is to interest workers in the improvement in the quality of their work (including the reduction of costs) and, above all, to stimulate management to fulfil the tasks assigned to the enterprise as a whole.

The premia available to the generality of workers in the enterprise derive from special funds set aside by the enterprise, which are usually financed either by direct grants from the superior authorities or from a proportion of profits which the enterprise is allowed to retain for the purpose. Among these funds, the "enterprise fund" is of particular interest in that it has been used, during the wave of post-1955 reforms in some countries, as a means of tying material incentives to a "synthetic" success indicator for the enterprise. However, as is shown below, the nature of the enterprise fund varies greatly between countries, and has varied over time, with regard both to the source of finance and to its utilization. In some countries other funds or schemes have been introduced, usually concentrated on rewarding the management of the enterprise.

In the Soviet Union, 1-6 per cent of the annual planned profit, and 30-60 per cent of the above-plan profits (the actual proportion varying between industries according to their importance and ease of profit-making) are retained by the enterprise in the enterprise fund for distribution according to a broadly predetermined pattern, on the condition that certain requirements are met (usually the fulfilment of the commodity output plan in the required assortment and of the plan for reduction of costs).[103] The size of the enterprise fund was limited by the decree of June 1960 to 5.5 per cent of the annual wage-fund of industrial personnel; and this decree has also raised the share of planned profits transferred to the fund to 10 per cent during the first year of production of "new techniques". Since 1960, at least 20 per cent of the enterprise fund has to be spent on measures for the introduction of new techniques and for modernization of equipment, and another 40 per cent on housing and construction of social facilities for the personnel; the residual 40 per cent may be spent on individual premia, social amenities, subsidized holidays, etc.

In contrast with Soviet practice, in eastern European countries the enterprise fund[104] does not, as a rule, originate in profits except that in Bulgaria 30-50 per cent and in Romania 50-65 per cent of above plan profits enter the fund. Otherwise the fund is financed by, and calculated on the basis of, the total wage-fund of the enterprise (see Table 2). Nevertheless in most countries the fulfilment of the profit plan is a necessary condition for any increase in the fund. In Poland and Hungary, this right depends not so much on the fulfilment of the profit plan as on the increase in profits compared with the preceding year. The latter approach has been motivated by the desire to deter the enterprises from attempts to keep their profit plans low. In Poland the enterprise fund consists of two parts. "The basic fund" is established if the profit of the preceding year is attained (it amounts to 2 per cent of the wage-fund, the proportion being progressively lower for reduced profits). "The supplementary fund" comes into being when current profits exceed those of the preceding year. This breakdown is also introduced in the "special premium fund" (see below) where the element of profit-plan fulfiment is also introduced into the calculation in such a way that the amounts of premia vary inversely with the profit plan. In Hungary, the director's fund also consists of two parts: one (representing about a half) is granted irrespective of results (but may be diminished if employment targets are exceeded), whereas the other depends on the attainment of the profitability level of the preceding year.

In Czechoslovakia, the enterprise fund in enterprises where there is also a premia fund (see below) was limited to 0.5-0.8 per cent of the wage-fund in 1963 and in other enterprises to 0.9-1.2 per cent.

As can be seen from Table 2, the utilization of the enterprise fund (or of its equivalent) varies greatly between countries. In Czechoslovakia and in eastern Germany the fund is not used for the awarding of individual premia at all, and is spent entirely on the satisfaction of collective needs of the personnel.[105] In Poland, and to a lesser extent in Hungary, Bulgaria and the Soviet Union, a substantial proportion of the fund is used for individual awards. Only in the Soviet Union and, to a small extent, in Bulgaria is the fund also utilized for production purposes (e.g. modernization of equipment).

Differences between countries are also marked with regard to the size of the enterprise fund, as its upper limit is shown to vary from between 1.2 and 1.5 per cent of the wage-fund in Czechoslovakia and eastern Germany,

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[102] *Ekonomicheskaya gazeta*, No. 11, 1964, p. 6. In Hungary, however, profit participation schemes (see below) have since 1957 largely replaced the system of workers' bonuses for over-fulfilment of output plans; and in at least some industries, employment and wage-fund targets have been abandoned and replaced by average wage targets.

[103] The enterprise fund or, as it was then called, a "director's fund", was introduced in the Soviet Union in 1936 — partly in order to strengthen the authority of the director. To some extent this has remained its purpose, but in some countries workers' representatives have some influence on its distribution.

[104] The fund is called "director's fund" in Hungary, "enterprise fund of the workers" in Czechoslovakia and "fund for socio-cultural amenities" in eastern Germany.

[105] Though small non-cash awards to individuals (of books, theatre-tickets, etc.) are permitted in Czechoslovakia.

TABLE 2

Formation, calculation and utilization of the enterprise fund in the eastern European countries and the Soviet Union

	Bulgaria	*Czechoslovakia* [a]	*Hungary*	*Poland*	*Rumania*	*Eastern Germany* [b]	*Soviet Union*
Conditions and formation							
Main indicators	Profit plan [c]	Output plan; Delivery plan; Profit plan;	Increase in profits [c]	Increase in profits [c]	1) Commodity output in planned assortment 2) Reduction of costs 3) Profit plan	No conditions	Profit plan [c]
Conditional indicators	Commodity output in planned assortment; Output plan	Varying by industrial branch		Varying by industrial branch			
Methods of calculation							
Fulfilment of profit plan	1.5-2.7 per cent of wage-fund				Up to 4.5 per cent wage-fund		1-6 per cent of planned profits
Over-fulfilment of profit plan	Up to 6.5 per cent of wage-fund for each per cent of over-fulfilment; 30-50 per cent of excess profits				50-65 per cent of excess profits		30-60 per cent of excess profits
Maintenance of profits				2 per cent of wage-fund			
Increase in profits				Varying by industries			
Maximum limits	7 per cent of wage-fund	1.2 per cent of wage-fund [d]				1.5 per cent of wage-fund	5.5 per cent of wage-fund
Utilization	*Percentage* (total expenditure = 100)						
Housing and other	35-40	According to enterprise decision	75	25	95	According to enterprise decision	40
Improvement in social services and amenities	25-30			According to enterprise decision			
Individual awards	25-30	—	25		5	—	40
Production purposes	5	—	—				

Sources : *Sotsialisticheskiy Trud*, No. 2, 1964 (pp. 125 *et seq.*); F. S. Veselkov, *Materialnoe stimulirovangie trudyashchykhsya v SSSR*, Moscow 1962. *Voprosy Ekonomiki*, No. 4, 1963 (pp. 101 *et seq*) and No. 5, 1964 (pp. 92 *et seq.*). *Finance a Uver*, No. 1 1963.

[a] Enterprise fund equivalent is referred to as " the Fund for Factory Workers ".

[b] Referred to as " the Fund for Socio-cultural Amenities ".

[c] A reduction of cost plan in deficit enterprises.

[d] In enterprises where no special premium fund is in operation. This limit was reduced to 0.9 percent in 1963.

respectively, to 7 per cent in Bulgaria and 8.5 per cent in Poland. On the whole, however, the magnitudes involved, particularly those affecting individual rewards, seem too small to act as a potent instrument stimulating workers to higher productivity *via* the profit motive. The schemes do, however, provide some incentive for the enterprise director, in so far as he is interested in having a fund of this kind at his disposal.

In addition to the enterprise fund (or its equivalent), special premia funds for the whole collective are in force in Czechoslovakia, eastern Germany and Hungary; and in the first two countries, these premia funds are the only means of rewarding workers individually and in cash.

In Hungary the premium fund has some elements of a system of profit-sharing in which all workers participate. The enterprise receives from the parent body an indicator of basic profitability (i.e. the rate of profit per 100 forints of output sold). This is normally the rate actually obtained in the preceding year and if it is just reached in the plan year the enterprise obtains only 10 per cent of the previous year's profit allocation to the fund. The actual share of profits transferred to the enterprise which exceeds the preceding year's profit rate is determined by the share of wages in total cost and by a "cost equalization coefficient" established for each enterprise separately. The latter is an expression of the relative ease with which cost reduction in the given branch can be attained (for instance, in 1960 this coefficient was 1.2 in machine-building, where the prospects for cost reduction were considered very good, and 3.4 in food processing, where they were thought to be bad). The purpose of such differentiation is to place emphasis on improvements in labour productivity by eliminating possible distortions due to variation in material inputs and to equalize the chances of enterprises increasing their profit. The total profit for distribution is divided among all workers once a year in proportion to their average monthly wage, and the sum received cannot exceed a monthly wage. A feature of the Hungarian premium fund is that a part of it (varying between ministries) is put at the disposal of the enterprise director irrespective of the fulfilment of the normal conditions, thus providing a means for rewarding those workers who are not directly concerned in the fulfilment of current economic tasks.

In Czechoslovakia, the size of the premia fund was linked with the increase of profit, or in some cases with the increase of global output, from 1959 to 1961, and with profit in 1962. In 1963, however, the national fund was fixed as an absolute amount, although the industrial ministries were required to set conditions for release of the fund to individual enterprises. The amounts released were generally related to "sales of goods produced" on a highly progressive scale of rewards for over-fulfilment.

In eastern Germany new principles for the formation and utilization of a unified premia fund were introduced in January 1964, linking the fund essentially to fulfilment of the net profit plan.[106]

Premia for management

The system of material incentives is relied upon to play a particularly important role in influencing the attitude of the leading personnel of the enterprise. By tying managerial premia to those indicators which reflect and measure the success of the enterprise (as defined by the planners), the system seeks to ensure identity between managerial self-interest and the national objectives set by the planning authorities.

Until recently, practically the whole weight of the incentive system in the Soviet Union and in the eastern European countries rested on the premise that the success of the enterprise ought to be measured by the volume or the value of its output; although trends in other indicators were never entirely overlooked, they were largely overshadowed by the importance of the output plan. Though perhaps not unjustified in the initial phases of planned economic development — when a fast growth of the key sectors of the economy was considered an indispensable condition for a successful "take-off" — this policy required a reappraisal when a higher stage of development was reached; and, as mentioned above, recent discussion has been largely concerned with devising means of replacing stimuli orientated overwhelmingly towards an expansion of output by those favourable also to an optimal pattern of use of inputs and pattern of output.

In the Soviet Union, an important step was taken in October 1959, when a system of managerial premia was introduced in most industrial branches based essentially on the fulfilment of cost-reduction plans.[107] Some additional conditions had, nevertheless, to be met for the premia to become operative, such as the fulfilment of plans for output in assortment, for labour productivity and for deliveries to other enterprises and economic regions, as well as the satisfaction of quality requirements (e.g. in coal mining). Depending on the industry, the premia for the fulfilment of the cost-reduction plan vary from 8 to 15 per cent of salary and that for above-plan economy from 0.8 to 1.5 per cent of salary for each one-tenth of over-fulfilment. The total received may not exceed 60 per cent of the monthly salary in the priority branches and 40 per cent in other branches of the economy, and total expenditure on premia in any enterprise must not exceed the economy achieved through cost reduction.[108] Since 1962, premia payments have been calculated on the basis of monthly rather than quarterly results, and they may be lowered by 20-40 per cent if monthly production targets are not met. In several branches of industry, especially in those in which output can easily be expressed in physical quantities,[109] premia for over-fulfilment of output plans have been maintained (in addition to the new premia for cost reduction); and these amount to up to 5 per cent of the monthly salary for each one per cent over-fulfilment of the output plan.

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[106] *GBL*, Part II, No. 10, 1964, pp. 80-86, and *Arbeit und Arbeiterschaft*, No. 4, 1964, pp. 73-76.

[107] The cost-reduction plan contains a target for expenditure per rouble of commercial output and for a percentage lowering of this ratio compared with the preceding year (separate targets are sometimes set for particular commodities). The unit cost is calculated as the ratio of the total cost of the commercial output to the value of that output at the wholesale prices of the enterprise. To avoid any impact of changes in the pattern of output in relation to the plan, the planned percentages of cost reduction on individual items are related to the actual pattern of output in order to calculate plan fulfilment (*Ekonomika i finansy sotsialisticheskikh predpriatii*, *op. cit.*, pp. 120-122).

[108] This rule was made still more rigid in 1962 when it was applied to each separate workshop (V. Chupyr, *Sotsialisticheski trud*, No. 5, 1964, p. 15).

Since its introduction in 1959, the Soviet scheme has been criticized on several grounds. Like all systems of remuneration based on the attainment of plan targets rather than on the improvement in the performance over time, it tends to reward the enterprise which succeeds in concealing its reserves (in this case the scope for economy of inputs) and penalizes the enterprise which sets its targets high. Secondly, in the Soviet system — in contrast with the principles adopted in most other countries of the area — the absolute magnitude of the rewards is restricted to that of the cost-savings achieved. Even more, since the wage-fund plan (including all provision for premia) is based on the experience of the preceding year, it may happen that funds are not available (or not fully available) for payments of earned rewards.[110]

Experiments intended to eliminate these shortcomings started in 1964 in 80 Soviet enterprises representing various industrial branches. Their tendency is to separate the special premia fund from the wage-fund and to make it dependent on the fulfilment of several plan objectives rather than one. Four indicative criteria are involved: output, labour productivity, cost level and quality of output, the actual selection varying according to the conditions of the branch. In the textiles industry the main accent is on quality improvement, on cost reduction and on the increase of labour productivity.[111] Moreover, branch normatives or coefficients have been introduced regulating the rates of premia accumulation so as to reward a planned success more than an unplanned one and to discourage tendencies to set plans low. At the same time a move has been made towards enhancing the role of profits by recognizing rentability (defined as the rate of profit in relation to the value of productive assets) as an important complementary indicator influencing the size of the premium fund.[112] Thus *sovnarkhozy* have been given the right to raise the premium fund by up to 25 per cent if the planned rentability is increased.

The reforms of the systems of managerial premia which took place in Bulgaria and in Rumania in 1960 followed broadly the main lines of the modifications introduced in Soviet industry in 1959 (see above) focusing on a shift away from the quantity indicators (output plan) and towards quality improvements (cost reduction plan). On the other hand, at least at the outset, the changes envisaged in Poland, Hungary, Czechoslovakia and, of late, in eastern Germany were meant to bring about a more radical departure from the existing principles of management of the economy as a whole and of the enterprise in particular.[113] The new thinking found its most outspoken expression in the Theses announced in 1957 by the Economic Council of Poland.[114]

The Polish Theses

The basic premise of the Theses was that a planned economy need not rely entirely on a system of commands passed down to enterprises from above, but that its effectiveness ought to rest to a large extent on appropriate economic stimuli. The instruments influencing the behaviour of the enterprise should be economic rather than administrative, and the rigid set of universal and stereotype measures then in force should be replaced by more subtle and diversified means of influence. Whereas the central decision-taking should be stronger with regard to investment than output, the autonomy of the enterprise should be extended in all directions, including that of investment.

More specifically, the Theses advocated a linking of economic incentives to changes in the enterprise's results rather than to the fulfilment of plan targets, and a replacement of global output by profit as the chief indicator of success and the source of premia funds. For this purpose, it was argued, profits earned should be adjusted to eliminate the impact of circumstances outside the influence of the enterprise; but, except for such corrections, and the permanent statutory rules on the distribution of profits between the enterprise and the state, no ceiling would be set to the amount of profit that the enterprise was allowed to retain, nor any limitation on its use. Since the enterprise would also have gained more freedom to determine its output and inputs, and the role of Workers' representation (the Workers' Council) was intended to be greatly enhanced, it could be concluded that the Theses went a long way towards advocating a Yugoslav model of economic planning. However, they stopped short at the crucial point of price formation. Although the Theses proposed a quite extensive reform of prices (particularly of prices of producers' goods), they did not advocate price determination by market forces, and therefore denied prices the role of an indicator of rationality and a determinant of the pattern of production, which they play — within limits — in Yugoslavia (see **Chapter VII**).

Although never carried out *in toto*, the Theses have had a considerable impact on economic thinking and on the organization of economic administration both inside and outside Poland.

The Polish system of managerial incentives underwent several modifications during the period 1957 to 1964, but has retained some of the features acquired under the influence of the Theses. The financial result of the activity of the enterprise has been the centre of attention and treated as a synthetic indicator of efficiency; and the establishment and the magnitude of the premia funds (both basic and supplementary) were made dependent on profit. However, the fulfilment of other targets (for production, cost reduction and home and export deliveries) was also required to release premia. Since 1 January 1964, the global value of output has been replaced as a target in most industrial branches by assortment plans, but until then it had played a larger role than assigned to it by the Theses.[115]

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[109] Such premia are operative in coal-mining, oil and ore extraction, chemicals, cement, gas, electrical machine building, sugar, textiles and shoes (Guryanov, Polyakov and Remizov, *op. cit.*, p. 90).

[110] A further complication arises from the fact that the wage-fund cannot be increased above the plan unless output exceeds the target too (see above); but a reduction of costs does not necessarily lead to increased production.

[111] *Sotsialisticheski trud*, No. 5, 1956, p. 17.

[112] Further steps, it has been stated, must await the completion of a price reform (*Ekonomicheskaya gazeta*, No. 11, 1964, p. 7).

[113] In eastern Germany the principles of a progressive reform of the whole system of planning and management adopted in 1963 include a revision of the premia system to link rewards essentially with increasing profitability (see *Richtlinie für das neue ökonomische System der Planung und Leitung der Volkswirtschaft*, Berlin 1963, pp. 57-63).

[114] *Zycie gospodarcze*, 2 June 1957.

The experience of several years has shown the weaknesses of the Polish scheme and has led to further reforms undertaken in 1964.[116] First, the concentration on financial success has tended to deter enterprises from long-term development projects carrying elements of financial risk. Secondly, enterprises have tended to concentrate output on articles which happen to carry the highest margin of profit or of total accumulation (profit plus turnover tax)[117] to the detriment of the planned pattern of output (see below). Thirdly, as is the case with most premia systems, but particularly with those based on profits, there has been a lack of direct correspondence between the efforts of individual employees and their premia rewards. On the one hand, financial results are known only when the accounts are closed for the year; on the other, profit participation schemes do not always reward those who contributed most to the efficient working of the enterprise, and conversely those who merit a reward may be frustrated by the failures of others. Fourthly, in a system based essentially on a centrally regulated supply of inputs and on an imposed pattern of disposal of output, the enterprise management does not possess the freedom of manœuvre necessary to advise on economically meaningful maximization of profit or, for the same reason, it may accumulate profits through an unmerited change in external conditions; and attempts to create comparable conditions have proved difficult and ineffectual. Finally, the "special premia funds" have been supported in the Polish system, as in those of other countries, by a variety of other premia, bonuses and individual rewards linked to specific assignments such as for instance the introduction of new techniques or expansion of exports, and this diversification has everywhere tended to weaken the incentive value of the system.[118]

The 1964 changes in Poland were part of a wider reform of the management system which increased the powers of industrial associations and strove to soften the rigidity of administrative controls (see section 3 above). Premia for non-manual workers have been pooled in one fund, its size being determined by the Ministries for the Associations and by the directors of the latter for individual enterprises, and the main principle of allocation being "the intensity, the rate of growth and the complexity" of fulfilment of plan tasks.[119] In addition, a reserve, amounting to 2-4 per cent of the premia fund, is to be kept by the Association to reward the fulfilment of especially difficult tasks, particularly in the field of technical progress and exports. Each organizational unit obtains several "tasks" (not more than five) which are not necessarily limited to targets incorporated in the technical-economic plan. The relative weight of the tasks in earning premia is defined by a point system (15 to 65 points — out of a hundred in all — being attached to any one task). Three categories of employees are distinguished: top personnel (directors, chief engineers and chief accountants), administrators and technicians, and the senior operational staff in production and research. For the first group, the main condition for premia payment is the fulfilment of the rentability plan (rentability being defined as the ratio of accumulation or profit to the cost of output sold) and/or of the assortment plan, but, as mentioned before, other tasks may be added according to circumstances. For the second group of employees, 70 per cent of the premia depend directly on the granting of premia to the first group, and to qualify for the remainder special tasks set for this particular group have to be fulfilled. For the third group, which is nearest to the production proper, all premia depend on the fulfilment of their own targets.[120]

The latest reforms of the Polish system of management and incentives thus bear some similarity to the changes introduced somewhat earlier in Hungary, the common feature being the tendency towards some integration of enterprises (both horizontal and vertical) accompanied by a strengthening of the role of the new bodies *vis-à-vis* both the central authorities and subordinate plants. At the enterprise level, the premium fund for managerial personnel is now fixed in Hungarian industry by superior authorities in relation to the size and importance of the plant,[121] and consists of two parts. One is entirely at the disposal of the director to reward his subordinates irrespective of the enterprise's results, whereas the other is allocated for the successful fulfilment of pre-determined tasks. As in Poland, a large degree of flexibility has now been introduced into the definition of those tasks, which vary from branch to branch and from one enterprise to another, as well as over time, depending on the needs of the moment. The special premium fund in Hungary is additional to the profit participation scheme and the director's fund (an equivalent of an "enterprise fund") described above.

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[115] In 1963, 82 per cent of all enterprises, covering 77 per cent of industrial production, used global or commodity output as the basis for calculation of wage and premia funds and for a general evaluation of the success of the enterprise. (Report of a special Government Commission on the criteria for the assessment of the activity of industrial enterprises, *Nowe drogi*, No. 1, 1964, p. 93.)

[116] See J. Obodowski, *Nowe drogi*, No. 6, 1964; and *Monitor Polski*, No. 32, 1964.

[117] This procedure has been criticized by a special commission on the role of profit and prices in planning headed by M. Kalecki (see *Gospodarka Planowa*, No. 5, 1964, p. 14).

[118] In Poland, premia and bonuses outside the special premia funds amounted in 1962 to half or more of the entire salary of the top personnel, so that non-fulfilment of planned tasks and consequent loss of the basic premia fund could have been compensated by other rewards (Obodowski, *op. cit.*).

[119] *Monitor Polski*, No. 32, 1964.

[120] The upper limits of premia vary between groups: for top personnel the maximum is 80 per cent of basic salary, for general technical and administrative staff 50 per cent and for other employees 25 per cent.

[121] Before 1 January 1964, the size of the special fund depended largely on rentability and fulfilment of planned targets.

(d) The attitudes and motivation of enterprise managements

The preceding sub-sections have described some facets of the functioning of a socialist enterprise, focusing largely on the recent evolution of the systems of material incentives. But in seeking a better understanding of the way the enterprise functions, its *spiritus movens* and the rationale of its behaviour, it is instructive to examine its typical reactions and responses to the stimuli entering the system of material incentives in the past. It seems convenient to arrange this examination under three headings, broadly corresponding to the three most essential goals of production in a planned economy: to maximize output, to minimize costs and to satisfy assortment and quality requirements.[122] Again it is necessary to stress that only the efficiency of material stimuli is under review, but that these are certainly not the only motivating forces in any society or at any level of management.

Maximization of output

In so far as the success of the enterprise is measured by, and the premia for workers and management are dependent on, the degree of fulfilment or over-fulfilment of the output plan, it is clearly in the interest of the enterprise to obtain low production targets.[123] This source of conflict between the enterprise and the superior authorities, which already appears at the earliest stages of plan elaboration, has plagued the evolution of the planned economy system from the very beginning. One way of obtaining a low output target is to fail to disclose the full productive capacity of the enterprise in equipment, material in stock and, to a lesser extent, labour.[124] Moreover, an exaggeration of supply difficulties in general has been among the means of deception favoured by enterprises, both because they are difficult to check and because they are credible in view of the known weaknesses in the co-ordination of output and supply plans.

Given the output plan, the incentives operative in planned economies do, on the whole, stimulate enterprises to maximize their output. This has remained true even after the replacement, in principle, of output targets by cost reduction or profit accumulation as the chief criterion of success of the enterprise and the basis for premia calculation (see above), since the shift has never been complete.[125] In most cases the fulfilment of the output plan has remained a pre-condition for any premia payments and the fact that the superior and intermediate organizations have maintained total output as *their* criterion of success cannot have failed to affect the attitudes of the enterprises.[126] For these reasons, the reforms of the incentive system do not seem to have had the effect of making enterprises find their "optimum" size of output — i.e. one which would maximize cost reduction or profit.

There are, however, some factors counteracting the tendencies towards maximization of output, the most important probably being the "ratchet" principle of plan-setting. In many cases the new annual plan is based on the achievement of the preceding year augmented by a "feasible" percentage. This means that an over-fulfilment of the output plan in one year may have to be paid for by a higher plan in the following year, and that the enterprise is thus normally reluctant greatly to exceed its output plan by mobilizing its reserves, particularly when the opportunity for a better utilization of reserves is not likely to reappear regularly.[127]

However, since enterprise management is vitally interested in the fulfilment and over-fulfilment of the output plan, it may be tempted to resort to a variety of practices which are inconsistent with other tasks and with the national interest. The scope for such abuses and manipulations depends in the first instance on how output is defined. If it is given in physical units, the choice of the unit will determine the deviation. Classical examples are the over-production of heavy paper-bags when the output plan for the bags is given in weight, or the production of textile fabrics of narrow width — in violation of assortment plans — as a consequence of plans expressed in length rather than in area. Plans expressed in value terms are widely open to the risk of manipulation. The attainment of the global value of output can be facilitated by the use of expensive materials or by an increased degree of processing involving acquisition of inputs from outside,[128] or by the concentration of output on costly and highly processed goods (see below).

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[122] The terms "maximize" or "minimize" are used here in the micro-economic sense relating only to the individual enterprise. Success at the enterprise level may or may not be conducive to macro-economic efficiency, depending upon other features of the system (see sections 1 and 3). There are, of course, other important tasks, often influenced by special premia, such as the introduction of new techniques or promotion of exports, but "the attainment — in the national interest — of maximum productive results at smallest cost is the principle of our economic development, of the management of the socialist economy and of planning" (*Planirovanie narodnogo khozyaistva SSSR*, Moscow 1963, p. 125).

[123] This is, of course, also true for other targets, whenever the attainment of or improvement on the plan, rather than an improvement on past performance, is the criterion of success.

[124] "It is not an accident that our planning and statistical agencies have only a very superficial knowledge of productive capacities in enterprises and industrial branches" (V. Nemchinov, *Kommunist*, No. 5, 1964).

[125] Writing in 1964, V. Lagutkin pointed out that "in practice, the degree of fulfilment of the global output plan is the basic (*osnovny*) criterion for evaluating the activity of the enterprise" (*Kommunist*, No. 5, 1964, p. 89). See also footnote 115 above, showing an analogous situation in Poland. The shift of emphasis seems to have been more radical in Hungary (see Table 1).

[126] "(Industrial) Associations are not interested in enterprises maximizing their financial gains, nor in highly-set production plans. They are, on the other hand, interested in the fulfilment of output plans, and this strengthens their primitive approach to the assessment of the work of the enterprise based entirely on their fulfilment of output plans expressed in value terms" (from the Report of the Polish Politbureau to the 14th Session of the Party Central Committee; *Nowe drogi*, No. 12, 1963, p. 49-50). See also W. Brus in *Nowe drogi*, No. 1, 1962, p. 176, where he argues that the present system of incentives encourages enterprises to submit realistic (i.e. not too low) output plans, but the Associations have a vested interest in low plans.

[127] See V. Nemchinov, *op. cit.* A resolution of the Soviet Party and Government of 20 March 1964 condemned the practice which results in the situation that "he who works worse gets a smaller plan and he who works better gets a bigger one" (G. Gertsovich, *Voprosy ekonomiki*, No. 5, 1964, p. 100). Similarly, the report of the Polish Political Bureau to the 14th Session of the Party Central Committee criticized the practice of setting up new output targets on the basis of levels attained in the preceding year, without regard to the quality of the performance (*Nowe drogi*, No. 12, 1964).

Moreover, since global output includes the increment of work in progress, the enterprise is tempted to start many new projects and/or to over-estimate the value of the increment of unfinished product, which is a difficult category to measure and check. Mainly for this reason, commodity output has often been introduced as the basis for premia, since this aggregate excludes the change in unfinished output. The latter practice has, however, two potential ill-effects: first, it may lead to an over-anxiety to clear up the outstanding volume of unfinished and semi-finished output, even though the latter may be in the nature of a reserve for future production and, secondly, it fails to reward those enterprises which may justifiably expand their volume of work in progress.

Thus the fulfilment, and *a fortiori* the over-fulfilment, of output plans is often achieved to quite a considerable extent by means unintended by the planners. A survey of 63 enterprises undertaken in 1958 in the Russian Federation and in the Ukrainian SSR showed that more than one-half of the total amount of over-fulfilled output derived from the production of unplanned goods or from unplanned increases in work in progress.[129]

Minimizing costs

Intense pressure for more production would conflict with demands for economical use of resources in almost any conditions, but particularly so in a situation in which output-value indicators can be inflated by the use of expensive materials, and in which virtually no price is paid for an over-employment of capital equipment.

Until recently, the methods used to prevent wasteful use of inputs relied to a large extent on appeals to non-material motivations, through exhortation, moral pressure, party guidance, etc. Material stimuli, in the shape of benefits accruing to the management from the enterprise fund, or from other premia or awards, were not considered very effective. However, a major aim of the recent reforms has been to strengthen material incentives so as to induce a "micro-rational behaviour" on the part of the enterprise, and current discussion of the need for further reforms stresses the same concern.

Before 1960, the interest of enterprises in the Soviet Union, and in most eastern European countries, in their profit plan had some bearing on their attitude towards costs through the link between profits and the enterprise fund; but this rather tenuous motivation has since been greatly strengthened by the introduction of special managerial premia for cost-reduction in some countries, and in others by the linking of premia with changes in profit over time.

The new schemes have certainly had some effect in steering enterprises towards a more rational use of their resources; but, judging by the widespread criticism that has been voiced, progress has been insufficient. Although solving some problems, the new incentives have created others.

First, the reduction of emphasis on the output plan by laying more stress on the cost-reduction or profit plan has not eliminated the struggle between the enterprise and the planners during the process of plan preparation, but has merely somewhat changed its nature: the enterprise has now a vested interest in concealing its capacity to reduce costs or to increase profits, depending on the incentive system in force. Second, there is an evident danger of inducing the enterprise to cut down its costs (particularly material inputs) at the expense of the quality of production, as well as to concentrate production on goods bearing a high planned profit margin; and Polish and Hungarian enterprises deriving (before 1964) their premia from rising levels of profit over time also tended to change the pattern of their output by concentrating on goods yielding higher profits. But, because of the nature of cost price relationships in the centrally planned economies, the tendency to expand a highly profitable output is not necessarily beneficial from the view-point of macro-economic rationality nor is it necessarily desired by the planning authorities.[130] Attempts to introduce appropriate corrections for calculation of premia so as to discourage unwanted changes in the production pattern have rarely proved to be fully effective.

Finally, the benefits of an increased concern of enterprise management with costs are limited by the narrow definition of costs (virtually excluding the use of fixed assets);[131] and management has rarely a material interest in avoiding damage or overstrain of equipment.[132]

The preceding discussion was largely concerned with the issue of cost minimization as viewed from the angle of managerial incentives. For the rank-and-file, some individual bonuses and rewards for economizing in the use of materials and of fuel have always existed. Moreover, it may be noted that the linking of the possibility of exceeding the planned wage-fund with the over-fulfilment of output targets has always favoured the economizing of labour (or rather employment) costs, both absolutely and in relation to other costs. If, as is usually the case, the enterprise has the right to increase its total wage bill on over-fulfilment of the output plan, the effect on average wages will be the greater, the smaller is the contribution of increased employment to such over-fulfilment. This is also true if the formula is based on cost reduction or on "value added" rather than on the global value of output.[133] In so far as it is independent of the volume of employment, the mode of formation of the enterprise fund also acts in this direction.[134]

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[128] Shortages of spare parts are usually associated with the fact that spare parts sold as such make a smaller contribution to the value of global and commodity output than they do when incorporated in finished products and also with the reluctance on the part of the enterprise to produce its own semi-manufactures, as it pays to acquire them from outside and include them in the global value of output.

[129] I. Yevenko, *Planovoe khozyaistvo*, No. 10, 1958, p. 6.

[130] In Poland, for instance, where premia are calculated on the basis of output expressed at industry prices (inclusive of turnover tax) and where, as in other countries, the margin of financial accumulation (profit *plus* turnover tax) is set artificially low for some consumers' necessities (e.g. meat or cheap cotton and wool goods), one effect of the profit schemes has been a tendency for the enterprises to turn away from the production of such goods. It may be added, however, that in this respect the interests of central authorities are not always identical. Fiscal authorities, for instance, tend to welcome a shift of production towards highly taxed goods.

[131] Depreciation allowances, which enter the current costs of production, have notoriously been too low to provide a realistic equivalent of a capital charge. In 1964, however, a charge on the use of fixed and working capital was introduced in Hungary and is apparently envisaged for several other countries (see section 3).

[132] The incentive value of profits is, moreover, weakened by the fact that the volume of investment funds allocated to the enterprise is not, in a centrally planned economy, at all closely related to the amount of profit earned by it.

Product-mix, assortment and quality[135]

It is the essence of comprehensive planning, as so far practised in the eastern European countries and the Soviet Union, that the pattern of output is not left to the free interplay of market forces, but that it is to a large extent established centrally, by the planning authorities, on the basis of their appreciation of the needs of demand.[136] Consequently, plan instructions received by the enterprises contain, as was mentioned in section 1 above, detailed product-mix and/or assortment targets: the degree of detail and of "compulsion" varies not only with the industry and the enterprise, but has also varied over time as policy moved towards, or away from, centralization.

The compliance of enterprises with product-mix and assortment requirements has been notoriously difficult to enforce, and much of the discussion of the improvement of the existing system of incentives has been concerned with this issue. The question, then, is why enterprises prefer to produce some goods rather than others, and in particular, why they do not always prefer what the plan requires, or — in those cases where product-mix and assortment are not specified in detail — what the consumer or user wants.

The adherence to the product-mix and/or assortment plan, where specified, is now virtually everywhere a precondition, in principle, for the payment of other premia; but in practice, for a variety of reasons, this rule is often violated. Sometimes the assortment plans are not detailed enough to provide a firmly defined instruction to the enterprise. Often an excuse is provided to the enterprise by a real or pretended deficiency in the supply of materials. Nearly always advantage can be taken of the obvious difficulty of controlling the fulfilment of the assortment plan, with its multitude of items, combined with the difficulty of determining exactly at what point the enterprise has actually failed to fulfil this plan.

Moreover, it was shown above that, as far as the enterprise's material interest is concerned, the desire to meet the product-mix and the assortment plans often comes into conflict with the wish to fulfil other plan targets, in particular the global output plan and/or plans for cost reduction and profits. It was also argued that the distorting effect on the planned pattern of output of the concentration of premia on global output has hardly been helped by changing the emphasis towards costs and profits, except that the direction of these distortions might have been altered. Nevertheless, the enterprise clearly cannot ignore completely its product-mix and assortment plans, even if it may tend to weigh carefully the advantages and disadvantages of departures from them.

Poor quality output has been encouraged not only by some premia motivations but also by a virtual absence of financial sanctions and responsibility for sub-standard production, combined with the fact that output and profit targets are usually calculated on the basis of goods produced rather than sold. Improvements have recently been brought about in some countries and for some goods by strengthening the position of trade organizations *vis-à-vis* industry and by giving them the right to refuse unwanted output; but a full solution of this problem is, as yet, nowhere in sight.[137]

Finally, a special problem of product-mix is that of the introduction of new products. A shift of output towards new products usually involves the enterprise, at least initially, in additional costs. Provisions to compensate the enterprise for probable losses take a number of forms, separately or in conjunction. For example, the calculation of premia for cost reduction may be restricted to "old" products or, if premia are paid for the fulfilment of the cost plan, the new plan may make an appropriate allowance for increased cost, or an additional premium may be paid, varying with the share of new products in total output, or higher prices may be set for new products (at least temporarily) to provide an enhanced profit incentive. But there is rarely any certainty that the enterprise will benefit from the changed structure of output, and managers are often reluctant, and always hesitant, to undertake new responsibilities which may upset the established order. This attitude is, of course, particularly pronounced when the introduction of new products calls for the installation of new, or a major modernization of existing, equipment. The rather substantial premia for the introduction of new techniques, put into effect everywhere in the early 1960s, should facilitate somewhat the solution of this problem, which is all the more urgent since the emphasis given to cost reduction and, to a lesser extent, to profit maximization, whether in the Soviet or in the Polish-Hungarian version, aggravates rather than helps matters.[138]

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[133] The replacement of global output by a category approaching the "value added" has also been shown to favour a shift of production towards goods carrying a higher proportion of financial accumulation — i.e. profits plus turnover taxes (see, for example, *Nowe drogi*, No. 1, 1964, pp. 39-41).

[134] Veselkov, *op. cit.*, p. 198; see also I. Usatov, *Voprosy ekonomiki*, No. 6, 1958, p. 79.

[135] The terms "product-mix" and "assortment" are often used interchangeably. It may be useful, however, to reserve the use of the former to a basket of different goods, and to apply the latter to essentially the same kind of goods differentiated only by quality grades. By and large, product-mix is a category relevant to capital goods, whereas assortment is of importance in consumer-goods industries.

[136] By contrast, supply-demand relations play a decisive role in the output pattern of industries and enterprises in the Yugoslav model of planning (see Chapter VII).

[137] For a further discussion see the SURVEY for 1958, Chapter IV, section 3; and the SURVEY for 1962, Part 1, Chapter I, section 4.

[138] See, for instance, A. Deryabin, *Vestnik statistiki*, No. 1, 1964, p. 19, who argues that premia for cost reduction act as a brake on technical progress.

(e) Conclusions

It is too early to evaluate the latest policy changes affecting the role of the enterprise and the systems of incentives for management and workers in the centrally planned economies. As was noted in section 3, some of these changes — notably the reorganization of industry into larger units and the increase in the responsibilities of the industrial associations and trusts — represent a curtailment of the autonomy which was earlier conceded in principle, although not always for very long in fact, to the individual enterprise director. However, the expected advantages of this change include better communication between the central planning authorities and the major industrial units, greater flexibility in adapting targets, directives and incentives to the conditions of the individual industrial branch and enterprise, economy and better use of managerial talent and a strengthening of the industrial structure so that the major units can more readily absorb the effects of changes in external conditions.

However, these changes in organization cannot in themselves solve the basic problem of *(a)* determining the best balance between reliance on controls or directives and on incentives for combining micro-economic efficiency with central direction of the economy and *(b)* devising a system of incentives which will effectively induce enterprise directors to meet the wishes of the planning authorities. In general, the present multiplicity of premia, bonuses and awards available to the enterprise does give rise to a search for some kind of an "optimum" fulfilment of the various tasks and targets at which total premia are at a maximum. Often this gives the result that the authorities had hoped to achieve (the cost reduction plan providing a counter-check against a tendency to maximize output "at any cost", etc.). But the premia systems do not seem to provide a tool sensitive enough to ensure that the enterprise optimum corresponds invariably to what is considered best by the central authorities.

To reconcile more closely the "optimum" of the enterprise or trust with that of the central planning authority will certainly require further reforms of the pricing system, which would permit more weight to be given to the synthetic indicator of profit maximization. But the reconciliation will become easier to effect if — as seems to be the intention in several countries — the pressure for very rapid economic expansion and structural change is now relaxed as these economies reach relatively high levels of development. Better forcasting and plan-building techniques, which reduce the conflict between national plan targets and the possibilities of the enterprises in the various branches of production, should also help. However, the major question raised by the problem of enterprise incentives is that of finding a balance between central control and decentralized decision-making that would introduce some elements of supply-demand mechanism without depriving the central planner of the means of influencing the trends in the basic proportions of the economy.

5. MANAGEMENT AND INCENTIVE PROBLEMS IN AGRICULTURE, WITH PARTICULAR REFERENCE TO THE CO-OPERATIVE FARM

Introduction

In the agricultural sector, all problems of planning and plan implementation are complicated by the very nature of the production process, the outcome of which depends on so many factors outside the planners' control, at least until a high stage of technique and diversification has been reached. In the countries under review, these problems are further complicated by the heterogeneous institutional structure of this sector at the level of enterprises (see Table 3).

Although long- and medium-term national plans — and often annual plans also — have traditionally included targets for output (often in considerable product detail), deliveries, investment, farmers' incomes or consumption,

TABLE 3

Percentage shares of different types of farm in cultivable land and global output

Country	Year	Cultivable land				Global output			
		State farms	Co-operative farms	*of which :* Private plots	Private farms	State farms	Co-operative farms	*of which :* Private plots	Private farms
Albania	1961	15.0	72.9	6.2	12.1	14.2	66.5	..	19.3
Bulgaria	1962	7.6	91.4	8.8	1.0	7.5	91.8	20.3	0.7
Czechoslovakia	1962	23.8	65.6	4.3	10.6	20.5	72.3	17.1	7.2
Eastern Germany	1963	7.8	85.6	10.4	6.4	16.7	72.6	..	10.7
Hungary	1962	28.1	65.8	7.9	3.4	21.0	66.5	24.1	4.1
Poland	1962	12.4	1.1	..	86.5 [a]	10.1	1.0	..	88.9 [a]
Rumania	1962	17.6	78.9	7.8	3.5	..	..	..	..
Soviet Union	1962	50.6	49.4	0.9	..	..	..	..	..

Sources : National statistics; and *Mezögaśdaságzak a szocialista átszervezés idejez 1962*, p. 16.

[a] Including " not classified ".

etc., similar to those stated for other sectors of the economy, these targets have differed considerably in their short- and medium-term operational significance, and their relative importance has differed also from that of similar targets in other sectors. The volume and pattern of state procurements and purchases, representing the quantities of raw materials and food needed for the working population in the rest of the economy, constitute the core of the annual agricultural output plans, fixed centrally and handed down the chain of command to local purchasing organizations. Technical supplies to agriculture and capital investments channelled through the state budget are also centrally determined in terms of total quantities or values; but such central targets are not directly "disaggregated" down to the producing enterprise, except in the case of the state farm.

Given the great marginal uncertainties involved in the planning of agricultural production, and the impracticability of operating on a level of stocks (or of reserve importing capacity in the form of foreign exchange holdings) sufficient to offset fluctuations in farm output, some other plan magnitude(s) must have an equivalent flexibility. Broadly speaking, the choice in all countries has been to make consumption in the co-operative sector the "flexible" magnitude.[139] Delivery obligations at fixed prices, income-taxes and various statutory obligations to set aside stated shares of income for particular purposes (investment, etc.) are the basic means used to ensure the desired priority for accumulation or other tasks before distribution of personal income to farm members.[140]

It may be noted that the existence of a large co-operative and/or private farm sector, combined with the absorption of a large share of sales off farms by state purchasing agencies, makes it much easier to localize the impact of variations in farm output than would be the case if state farming, with workers and employees earning fixed wages, were the rule. However, the co-operative farm system raises other problems which are the main subject of this section. But before considering them, a brief reference is desirable to the other types of farm organization to be found in the centrally-planned economies.

The state farms are basically enterprises of an industrialized type which work under *khozraschet*, and operate with fixed levels of wages and state-allocated investment funds. Certain basic conditions must, however, be fulfilled if a state farm is to be satisfactorily operated along the lines of an industrial enterprise. A high degree of specialization and a high level of production technique is required so as to keep output reasonably stable from one year to another (since the terms of trade between agriculture and other sectors are not in general greatly modified with fluctuations in farm output), and to permit profits (or not more than planned losses) in the state farm sector as a whole. The state farm must also be able to provide year-round employment to its manpower or have access to seasonal labour. Many state farms are still of a mixed-production type and some still have certain features of a non-industrial enterprise (such as payments in kind and allocation of subsidiary plots to workers) but from the point of view of problems of management and incentives they present a picture very similar to that of the standard industrial enterprise described in the previous section.

Only in the Soviet Union do the state farms occupy as much as half of the cultivable land, and in terms of global output their share is much smaller (see Table 1). It seems unlikely that state-farming could entirely replace co-operative farming until a much higher general level of farming technique has been established and/or increasing industrialization reduces the share of agriculture in total national income to a level at which the localization of the impact of fluctuations in farm output loses any importance.

Private farming hardly seems to require special analysis within the framework of this study; and the problems of management, and particularly of incentives in the private-farm sector, in eastern Europe are not essentially different from those arising in a market economy with strong governmental intervention in the agricultural sector. In most countries, with the exception of Poland, private farms are of little importance.

In Poland, obligatory deliveries at fixed prices provide both a means of taxation of private-farm income and also an assurance of a certain minimum level of deliveries of particular products to the state procurement agencies.[141] State organizations also contract for the greater part of the output of "technical" crops (such as sugar-beet) and for meat for export. But a large part of farm output is marketed through distribution co-operatives or individually, at fairly flexible prices.

The Polish authorities are trying to encourage traditional forms of co-operation and association among individual farmers, and particular efforts are being made to increase the effectiveness of the "agricultural circles". These are the principal means of channelling investment resources into agriculture and influencing the pattern of their use. The funds of the circles are fed by a flow of finance from the state budget (representing the difference between the value of obligatory deliveries at their actual and the free-market prices) and the purposes for which they can be drawn are broadly specified on the basis of consultation with local authorities.[142]

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[139] Consumption is to be understood in the very broad sense, since the adjustment may affect not only food consumption on the farm and money income distributed for non-food consumption, but also productive consumption on the collective farm, and particularly on the private plot.

[140] This statement, however, requires some qualification. First, even though great efforts may be made to ensure the desired priority for accumulation out of the income of the co-operative farm, some "leakage" to consumption is likely to occur in times of strain; secondly, and more important, the possibility of selling some part of the farm's produce — and, even more, that of the private plot of the co-operative farm household — on the free market means that a part of the impact of fluctuations in farm output is absorbed by real personal income in other sectors, via changes in free-market prices for farm produce.

Naturally, "planned" adjustments of this kind may also be made by the authorities varying procurement or contract prices in the light of harvest expectations; but adjustments at less than annual intervals are rare.

[141] Obligatory deliveries of wheat, for example, are also retained as a means of obliging the peasants to produce a certain marketable quantity of this non-traditional crop despite their preference (under the present structure) for other forms of output.

The co-operative farm

The most "advanced" form of co-operative — the collective farm — is a typical Soviet institution, with many historical and traditional features; it was originally developed from the Lenin co-operation plan as a device for transforming agriculture from small-scale peasant farming into a modern industry and its present statutory form has evolved from the "Model Statute for the Agricultural Artel" of 1935 and a series of amendments and supplements, which have been particularly frequent since 1956.[143]

In the eastern European planned economies agricultural co-operation has been organized, by and large, on the Soviet pattern. But, although most of the land is now under collective farming in all countries except Poland, co-operation has not everywhere reached the same stage as in the Soviet Union and several different types of co-operative farm are still in existence. The more advanced types operate under regulations which are very similar to those laid down in the Soviet Model Statute mentioned above; [144] but one difference, with some practical implications, may be noted. In the eastern European countries the land of the small farmers has never been formally nationalized; they therefore retain certain rights to the land they originally brought into the collective farm, and in some countries these rights are reflected in a "rent" element in the formulae governing the distribution of personal income.[145] No such situation exists in the Soviet Union.

Although differences in organization and in the degree of "collectivization" of work exist from one type of co-operative farm to another within some countries, and national differences can also be detected, these differences do not basically change the problems arising in the field of management and incentives in the co-operative farm sector. In the remainder of this chapter, therefore, attention is concentrated on the collective farm and, mainly, on Soviet experience. It needs to be borne in mind that, as in the case of the industrial enterprise, the collective or co-operative farm is itself in a phase of evolution at the present time as technical, economic and social progress both make new demands on management and open up new possibilities for improving management techniques and incentive systems.

The collective farm is defined as a co-operative organization of peasant families — the minimum number being laid down in the model statutes — who cultivate a certain area of land in common. The "normal" size for a farm differs widely between countries, and often between regions in the same country, depending partly on natural conditions and on the extent and type of specialization of production, but also depending to some extent on the degree of collectivization in the country concerned (for example, whether or not most farms are now advanced-type collectives or whether a number of different types of co-operative farm, or private farms, persists) and on how long the present stage of collectivization has existed. In most countries the authorities have tended, for some years past, to promote the merging of farms into large units, in the interests both of economic efficiency at the farm level and of easier influence and control by state and party institutions. But in some countries, notably Bulgaria, earlier consolidations of farms into mammoth units have been to some extent reversed in recent years, since it was found that management problems were accentuated as farms expanded beyond a certain size; and more careful consideration is now being given to the question of the optimum size of farm in differing natural conditions and for different types of production.[146]

Administrative structure and organization of work in the collective farm

Although the many statutory regulations applying to the collective farm appear to be applied with considerable flexibility in practice, a summary description of the basic conditions under which such a farm works seems to be a necessary preliminary to a discussion of problems of management and incentives.

The basic structure of the administrative organs in a Soviet collective farm is illustrated in Chart 7. The supreme authority is, in principle, the general assembly of the members, which should decide all important questions concerning the individual statutes of the farm, membership, production-financial plans, work rules and income distribution. In large farms the members are usually represented by elected deputies at the general assembly; and since 1956, when the collective farms were given some scope to adapt the model-statute to their specific conditions, a certain delegation of decision-making has become the rule.

The general assembly elects from the members a management board, normally consisting of 5-9 members, and also elects a chairman, who is the operational manager of the farm. He is responsible, in consultation with

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[142] The earlier requirement that individual members of the circles should directly contribute part of the cost of any investment or other activity has now been abandoned, but the circles must cover amortization of their assets and operating expenses by charges to their members for the facilities they offer.

[143] See declaration of the Council of Ministers of 6 March 1956, "On the collective farm statute and further development of collective farmers' initiative in organizing collective farm production and management". Collective farm laws constitute a very complicated chapter in Soviet legislation, and in the present study they will be referred to only as far as they are of major economic relevance. For a detailed discussion see N. Kazentseva, *Kolkhoznoe pravo*, Moscow 1962.

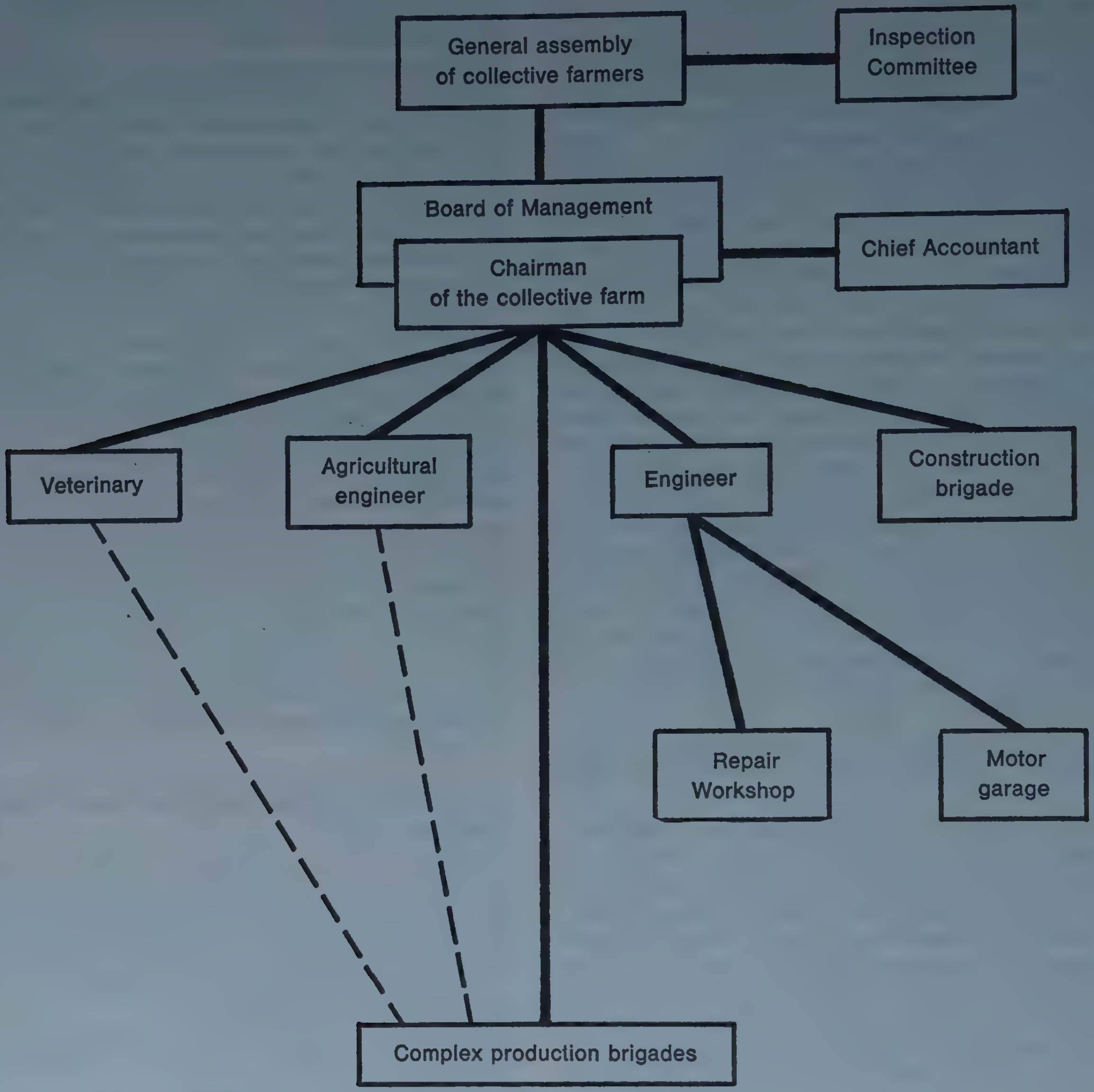
[144] For a summary of the statutory situations in eastern European countries, see N. Kazentseva, *op. cit.*, pp. 509-535.

[145] In 1960 land rent represented about 7.8 per cent of distributed collective farm incomes in Hungary; in eastern Germany it corresponds to about 20 per cent in Type III and about 40 per cent in Type I co-operatives (see V. Storosheva and Kh. Potapova, *Pobeda leninskogo kooperativnogo plana v stranakh sotsializma*, Moscow 1963, p. 82).

[146] For a survey of recent Soviet articles on the subject, see *Ekonomika selskogo khozyaistva*, No. 4, 1964, pp. 67-73, and for a discussion of the problem in eastern European countries, see *Economic Survey of Europe in 1960*, Chapter IV, pp. 6-7.

CHART 7

Administrative structure of a Soviet collective farm



the board, for the implementation of decisions taken by the general assembly or other organs, and his instructions are binding on all members and employees. Because of the important role played by the collective farm chairman, his election usually needs the direct or indirect approval of local state and Party authorities and, especially now that increasing attention is being given to technical and managerial qualifications, he is often in fact appointed by them. The collective farm chairman is usually assisted by a number of technicians — agricultural and technical engineers, economist/chief accountant, etc., who need not already be members of the collective farm on appointment, but normally receive special conditions for entrance: a guaranteed minimum salary, allocation of a subsidiary plot, etc. The general assembly also appoints an inspection committee to watch the interests of the members,

For work purposes the farm members are organized in "brigades" and "livestock farms", or are attached to special enterprises or workshops within the farm. In large farms which have introduced "internal *khozraschet*", or autonomous economic accounting for such individual units, the foremen of these departments may have considerable managerial responsibility.[147]

According to the basic statutes of the collective farms in all the centrally planned economies, each collective farm family is entitled to a "subsidiary plot" of land, which it cultivates for its own purposes and on which it can keep a limited number of livestock. The size of the allotment varies by countries, regions and individual farms. In the Soviet Union it should not, in principle, exceed 0.5 hectare,[148] and in other countries it is seldom significantly larger although in practice the size may vary considerably depending on local conditions. The plot has often been the subject of controversy, and the official attitude has constantly wavered in the face of conflicting ideological and economic considerations. On the one hand, the plot still offers the opportunity for the utilization of marginal labour supply, in the form of part-time family labour and of capital assets, in the form of farm buildings inherited from the original peasant farms. The contribution of such productive resources to total farm output is by no means negligible in any country. Moreover, so long as an assured and adequate minimum annual income from collective activity cannot be guaranteed to each farm family, the individual plot remains an essential basic source of real income; and, until very recently, the private plot has also had to provide on the farm the supplementary income that has been provided by social services to the urban population.[149] The abolition of the plot would thus require fundamental changes in the system and levels of remuneration for collective work and of social services for the farm population; it would also require an expansion of the retail distribution network for food supplies in the countryside.

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[147] In recent years "internal *khozraschet*" has become an increasingly common feature of economically advanced collective farms. Under such conditions the individual brigades, livestock farms and special enterprises are linked to the collective farm in rather the same way as the state farms are linked to the state budget and other central organs of planning and management.

On the other hand the subsidiary plot provides the collective farmers with an opportunity for promoting individual farming at the expense of their participation in collective farming.[150] The collective farms therefore normally have internal regulations specifying the minimum quota of labour which each member must devote to the "communal sector",[151] and some pressure can also be exerted through the farm members' dependence on supplies from the collective farm for some of their subsidiary activity (for example, on feeding-stuffs from the collective to help support "private" livestock). From the side of the central authorities, taxation, delivery obligations and other restrictive measures have often been used to regulate subsidiary farming.

If the collective farms are linked at one end to a complex or dwarf-enterprises, they have also for some time been urged to join together with neighbours in inter-collective-farm enterprises for electric power generation, primary processing, storage and transport, manufacture of building materials, construction, etc. The development of inter-collective-farm and collective-farm-state activity was particularly rapid in the period 1957 to 1960 in the Soviet Union. Although the experience of such activity has been, on the whole, satisfactory, complaints have been rife of serious failures resulting from poor utilization of production funds, non-fulfilment of production plans, high costs and excessive administrative expenditures, all causing damage to the shareholding collective farms.[152]

The links of the collective farm to macro-economic planning

As has been briefly noted above, the relationship of the collective farm to the central state organs of planning and management is in many respects very different from that of the industrial enterprise or, indeed, the state farm; and this is true both of the relationship of national to farm plan targets, and of the financial flows underlying them.

In relation to collective-farm output, the main concern of the central authorities is to secure the desired volume and pattern of deliveries from the farms to the state procurement and purchasing agencies. Centrally-determined targets for such deliveries are passed down to the appropriate regional and local organizations, which are responsible for contracting with the farms for the planned supplies. Since 1955 in the Soviet Union (and similar dates in other countries) the targets for output of particular products, land use, animal numbers, and yields entered in the national plans have acquired an essentially "indicative" character and are no longer disaggregated as compulsory or otherwise significant targets to the collective farms. The old system led to serious distortions of local production patterns, with adverse effects on yields and productivity; and the basic principle of the system which has superseded it is that assurance of the planned level and pattern of deliveries to the state should be achieved mainly by means of price incentives and the influence of local procurement organizations and territorial production boards (see below).

Central planning of inputs into the collective farms covers the global quantities of fertilizer, pesticides, equipment, building materials, etc., to be made available; but these targets are not in any sense disaggregated to the individual farm and there are no direct institutional links between the national and collective-farm plans in this respect.[153] This reflects in part the decision, taken also in respect of output targets, to leave maximum scope for the initiative of the farm management provided that the priority claims of the state (deliveries) are met. It also reflects the uncertainty about technical coefficients at the present level of agricultural development: the connexion between the various inputs and output is tenuous and the impact of control of material inputs can well be nullified by variations in the efficiency with which they are used. However, regulation of the farms' use of their money income does influence their use of inputs, and particularly their investment (see below).

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[148] For a discussion of the question, see N. Voloshin, *Pravo lichnoi sobstvennosti kolkhoznogo dvora*, Moscow 1961, and V. Venzher, *Voprosy Ekonomiki*, No. 7, 1962.

[149] Some kind of general social security scheme for farm families has been introduced in most eastern European countries in recent years: in Bulgaria in 1956, in Hungary in 1959 and in Czechoslovakia in April 1962. In the Soviet Union a decision to introduce the first nation-wide scheme for collective farmers was taken in July 1964. (For the text of the law, see *Selskaya zhizn*, 16 July 1964.)

[150] See *Economic Survey for Europe in 1960*, Chapter IV, pp. 13-14.

[151] In Hungary, for example, a system of penalties has also been introduced for collective farmers who fail to present themselves for work in the communal sector during peak periods.

[152] See A. M. Pakhanov, *Finansy mezhkolkhoznykh organisatsii i predpriyatii*, Moscow 1962.

[153] The central authorities may, of course, on a selective basis direct supplies to special regions or to special types of farms. In the Soviet Union, for example, fertilizers have until recently to a large extent been reserved for farms specializing in technical crops.

Labour supplies for the collective farms are not incorporated in the national economic plan at any level of aggregation, although skilled labour is always centrally allocated;[154] and at the farm level only potential labour input — farm membership representing the upper limit — can be defined. However, the question of labour input in macro-economic terms can easily be ignored just because the consumption, or personal income, of the farm population also remains essentially unplanned. Income distributed to farm members is a residual remaining after allocations of income to other purposes (tax payments, accumulation, collective consumption within the farm, etc.) have been made according to standing regulations (see below).

Thus today, for the collective farm, the only obligations having something of the characteristic of a "compulsory" plan target are, in principle, the fulfilment of contracts earlier accepted for deliveries of produce to the state and the setting aside of some parts of gross income for investment and other purposes in accordance with standing regulations. The state farm, in contrast, receives output and delivery targets and targets for current inputs (labour and material) investment and wage-bill or average wage from its superior authorities in much the same way as does an industrial enterprise.

However, the much greater apparent autonomy of the collective farm has, always and everywhere, been modified in practice by two factors. The first is the fact that the state purchasing organizations are the major outlet for the farms' marketable production; the second is the advisory and supervisory functions given to local state and Party organizations. Until the late 1950s, the Machine and Tractor Stations, in their capacity of service and supervisory agencies, everywhere played an important role as a direct link between the state and the farms. Later, as machinery and personnel were transferred to the farms themselves, local state and Party bodies, as well as local agencies of central supply and purchasing organizations, certainly continued to exercise a great influence on the collective farms, but the need was increasingly felt for more unified control and direction at the local and regional level. The new system of state agricultural administration through the territorial production boards, introduced in the Soviet Union in 1962 (and the similar systems later introduced in several eastern European countries) represents an attempt to combine decentralized planning with a fairly close external control and direction of the production and financial activities of the collective farms. Through their inspector-organizers the production boards have the duty to provide guidance to the collective farms on the planning of production and organization of work. Their influence should, in principle, be exercised in the form of advice; but in many cases a pettifogging guardianship appears to have developed.[155]

The possibility of effective guidance by the boards hinges, to some extent, on the fact that, although deliveries to the state fixed under contract are virtually the only equivalent of centrally-determined plan targets binding upon the collective farm, the farm is not exempt from the obligation of all productive enterprises to produce detailed enterprise plans. In close consultation with the immediate parent body, the collective farms must elaborate long- and medium-term plans, as well as yearly operative production-financial plans (*promfin* plans). In principle, the adoption of the plans is a matter for the general assembly of the collective farm. However, the delivery agreements concluded with the local agencies of the State Procurement and Purchasing Committee are drawn up to cover a period of years, with rather limited possibilities of annual variation of quantities. At the preliminary stage of planning, a collective farm's management can certainly argue about the volume and type of produce to deliver, bearing in mind its basic interest in maximizing the farm's returns; but any failure to fulfil obligations towards the state, once targets have been set, justifies intervention by the parent body. Thus the delivery agreements are a central element in farm management decisions concerning the output pattern in the short-term and provide a focus for influence by the territorial production boards.

The yearly "*promfin*" plan contains a programme for plant and livestock production, for construction and work in special enterprises, for mechanization, sales and distribution of production, for utilization of available labour and for labour productivity, a cost plan and a financial plan. The planning procedure in an advanced collective farm may not be very different from that in a state farm, but the financial and other implications of this activity for the farm are of a quite different nature.

The Director of a state farm operates with allocations of material supplies, investment finance and wage-funds. His primary interest is in meeting his output and other targets which can earn premia for himself and his personnel, and one of these targets may well be profit. However, the direct effect of the amount of profit earned by the farm in a given period on the current remuneration of the personnel or on the ability to increase either current material inputs (of fertilizer, pesticides, etc.) or investment, so as to raise the future productivity of the farm, is only marginal. Moreover, any such changes in inputs and future productivity will only have a very small direct impact on the future incomes of the personnel of that farm. In the collective farm, as is shown below, the situation is radically different.

From its output, in terms of physical quantities of various crops and animal products, the collective farm must, as a prior obligation, make its contractual deliveries to state organizations. Part of the produce must be retained on the farm for internal needs, such as seeds, feed, reserves, and processing on the farm. The remainder of output may be used partly for payments in kind to the farm members, aid in kind for social security purposes, etc., and part will be sold through the co-operative trade organizations on the basis of agreements, or sold on the collective-farm markets.

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[154] See also the description of manpower balances in Chapter IV, section 5.

[155] See the resolution adopted by the Central Committee of the Party and the Council of Ministers of the Soviet Union on 20 March 1964, "On Acts of Gross Violation and Distortion of the Practice of Planning Collective-farm and State-farm Production" (*Izvestia*, 24 March 1964).

It may be noted at this point that the state farm makes its contribution to planned accumulation in the economy as a whole, and to the finance of current expenditures from the state budget, in the form of transfers of profit to that budget and authorized retention of funds for investment; allocations from the central budget for investment or other purposes may or may not offset these transfers in whole or in part, depending upon whether resources are being drawn from the rest of the economy for investment in the state-farm sector or vice versa. In contrast, the contribution of the collective farms to accumulation and state expenditure outside the sector is largely made indirectly, through the use of the price mechanism combined with contractual deliveries to the state (and in some eastern European countries obligatory deliveries also), though they also pay income-tax to the state budget. In the Soviet Union the income-tax is calculated at a flat rate, somewhat differentiated according to regions; and in recent years the average rate has been 12.5 per cent of taxable collective farm income.[156] Taxable income is there defined as "global" income before deduction of payment for inputs from outside the farm, but after allowance for the setting aside of produce to meet internal production needs (feed, seed, reserves, etc.). Thus it is not in any sense based on the profitability of the farm's operations, a fact to be borne in mind in considering the incentives influencing collective-farm management. Remissions of tax may be granted in particularly difficult conditions, and special "incentive" remissions are also introduced at times; for example, for the period 1961-1965, 80 per cent of collective farm income from sales of animal products are exempt from taxation in the Soviet Union. In connexion with concern about the apparently growing income disparity between the collective farms, the present mode for calculation of collective farm income-tax has been exposed to much criticism. For various reasons, the levy on "global" income favours economically well-established farms, and some economists have suggested a switch to something approaching a "net income" basis ("net income" being defined, however, as farm income before any distribution to farm members and *not* as shown in Chart 8), and a progressive instead of a flat rate.[157]

Whereas the state farms may have their authorized retention of profits for investment supplemented by grants from the state budget, the collective farms have to build up their own investment resources, and can supplement them only by long-term state credits, bearing interest and reimbursable. According to the Model Statute, the collective farms have to provide for investment finance by making annual allocations to the capital or "indivisible" fund. The funds are earmarked for expenditures on investment goods and for payments of interest on investment credits. The minimum size of contributions to the funds is generally fixed by central regulations as a percentage of gross money receipts before deduction of payments for current inputs from outside the farm.[158] As in the case of the basis for calculation of income-taxes, objections are now frequently raised against this formula. It does not seem economically rational to use gross money receipts as a basis, since they may represent widely different proportions of total income after deduction of current external inputs, depending on the production pattern.

Since 1960, collective farms in the Soviet Union are also obliged to establish an amortization fund; and rates have been recently revised in connexion with the revaluation of fixed assets in agriculture in January 1962.[159]

Long-term state credit to the collective-farm sector is available in accordance with central plan targets and under the administration of the State Bank. Since 1961, construction credits have been granted in the Soviet Union for a period of 15 years at an interest rate of 0.75 per cent, with repayments starting from the fourth year. For machinery the period is five years. Credits can only be obtained, however, if the statutory regulations about allocations to the indivisible funds have been fulfilled.[160] They can be obtained only for capital expenditures foreseen in the production-financial plans of the collective farm in question, and only on the basis of "project costs" (excluding building materials of intra-farm origin and collective farm labour). Short-term credit for current production needs is granted for a period of 12 months at an interest rate of 1 per cent. The most important form of state short-term credit help to the collective farms is the cash advance payments for state purchases of agricultural products, granted, in the first half of the year only, to the extent of about 30 per cent of the annual value of contracted deliveries.[161]

Machinery and current industrial supplies are obtained in the Soviet Union through orders to the local agencies of the *Soyoussel'skhozteknika*, the All-Union Association for technical supplies to agriculture. The availability of such supplies to the individual farm depends on the quantities allocated to the region in question under the central distribution plan. In case of local shortages, the territorial production boards decide upon the allocation. If surplus supplies are at disposal, the farms may be encouraged to acquire them, often by offers of credit.

Labour input and labour costs in the individual collective farms are, as already mentioned, entirely detached from the macro-economic planning mechanism. Whereas workers and employees in a state farm are guaranteed full employment, regular payment of wages, and state social security benefits, remuneration for work in the collective farm depends entirely upon the farm's results and on its decisions on how to distribute its income within the

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[156] See *Ekonomika selskokhozyaistvennikh predpriyatii*, Moscow 1962, pp. 411-412.

[157] For a discussion of the problem, see *Ekonomika selskogo khozyaistva*, No. 5, 1964, pp. 99-105, No. 6, 1964, pp. 94-98.

[158] In the Soviet Union the Council of Ministers decides each year on the minimum limits within which this percentage may vary, at present between 15 and 20 per cent; the percentage for each individual farm is laid down by the immediate parent body at local level — i.e. by the competent territorial production management board.

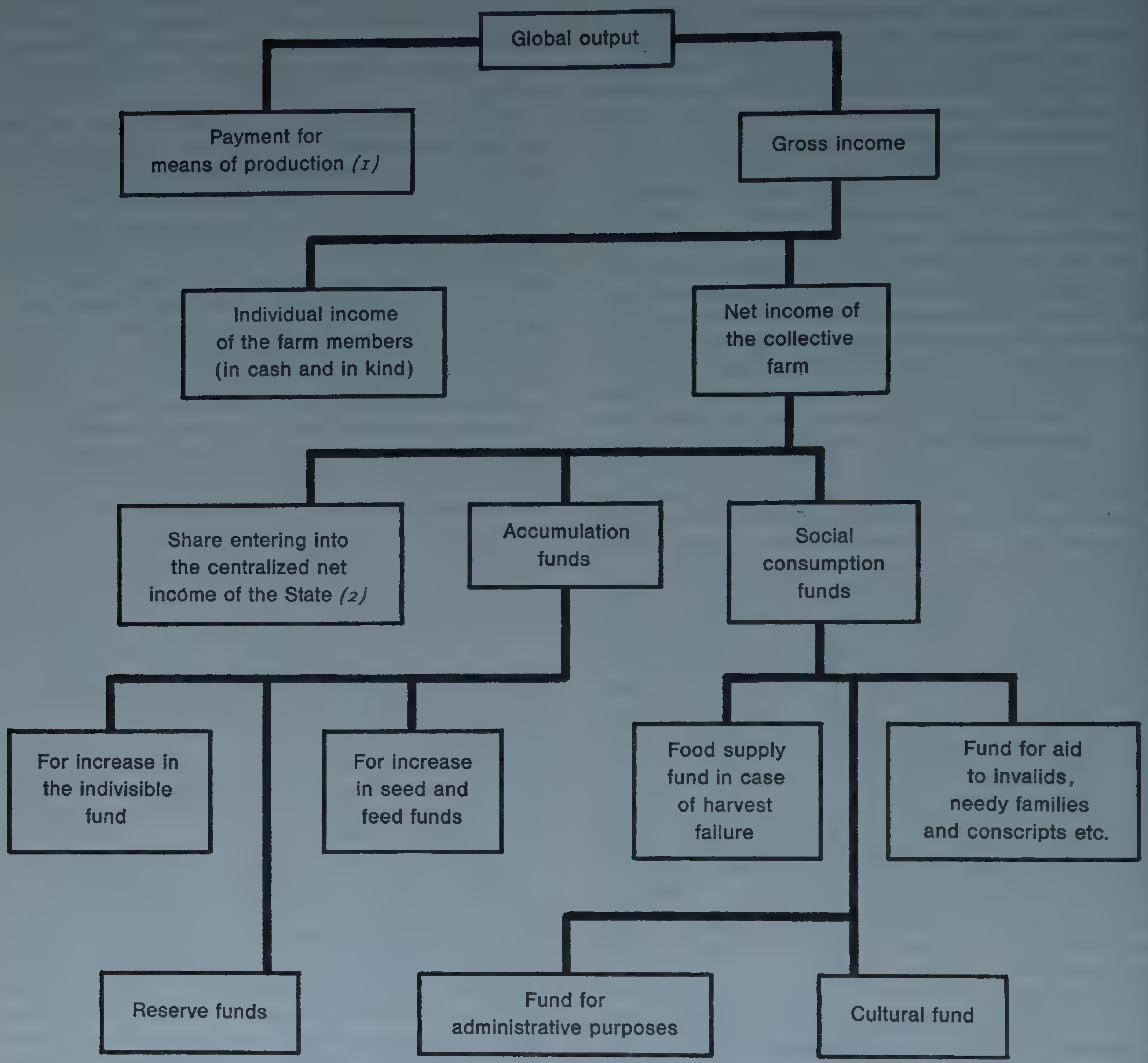
[159] See *Ekonomika selskogo khozyaistva*, No. 6, 1964, p. 42.

[160] See *Ekonomika selskokhozyaistvennikh predpriyatii*, Moscow 1962, pp. 400-403.

[161] See K. Karpov, "Nekotorye voprosy podema ekonomiki otstayushchykh kolkhozov", *Kommunist*, No. 2, 1964, pp. 49-50.

Chart 8

Distribution of output and income in the Soviet collective farm


Global output
Payment for means of production (1)
Gross income
Individual income of the farm members (in cash and in kind)
Net income of the collective farm
Share entering into the centralized net income of the State (2)
Accumulation funds
Social consumption funds
For increase in the indivisible fund
For increase in seed and feed funds
Food supply fund in case of harvest failure
Fund for aid to invalids, needy families and conscripts etc.
Reserve funds
Fund for administrative purposes
Cultural fund

Source : T. L. Basyuk, *Organizatsiya socialisticheskogo selskokhozyaistvennogo proizvodstva*, Moscow, 1963, p. 332.

Note. — The chart is reproduced as given in the source. It must be remembered, however, first that the " net income of the collective farm " is not " net " of taxes paid to the state (shown as part of it) and, secondly, that the " individual income of the farm members " (shown as a deduction from gross income to give the " net income of the farm ") is in fact a residual after all other allocations shown in the chart have been made.

(1) Material inputs of agricultural and industrial origin and services from outside the sector.

(2) Income taxes, and other obligatory payments.

limits set by the statutes. Labour availability is, moreover, to a great extent haphazard, depending partly on the family structure of the farm membership; and the farm labour distribution has little connexion with the basic resource endowments of the individual farms. In principle, the net income available for the remuneration of collective-farm work according to individual labour input is a residual, which can be finally established and distributed only at the end of the year, when all obligations towards the state and all statutory payments and allocations to the various funds have been made (see Chart 8). In practice, conditions are normally somewhat less stringent; and in economically well-established collective farms questions of employment and remuneration can usually be solved as well as in the state farms. Nevertheless, in the majority of collective farms the level of earnings is relatively low and the relationship between effort and earnings uncertain.

Problems of incentives in the collective farms

It is generally recognized that the central authorities are not in a position to hand down to each individual farm all the major elements of its plan, providing for the pattern of output as well as for factor inputs, including land use. Consequently, material incentives in the collective-farm sector cannot be geared exclusively to greater effort by management and membership in order to maximize global output, fulfil delivery plans or to reach — or exceed — other plan targets. Even more important from the point of view of the central authorities is the choice of means to encourage collective farms to adopt policies and attitudes conducive to a better medium- and long-term use of resources in the farm sector as a whole. These policies and attitudes should be in conformity with the general intentions of the planners, but should — without detailed and specific central instructions — lead to improvement of the level of farming technique through *inter alia,* a greater specialization of production, taking into account differing natural and climatic conditions, location and labour supply, through rising investment and through better utilization of the gradually increasing supplies of fertilizer and other current inputs. Of course, in this general framework, incentives encouraging more intensive effort by the labour force — both management and the ordinary farm members — gain added significance.

The inducement to improvements in farming efficiency has to be made consistent with the basic aim of the collective farm as a unit — to increase the income available for immediate distribution to its members and, as probably a lesser priority in most cases, to raise the future productive potential of the farm. Moreover, despite the democratic nature, in principle, of the collective farm as an institution, its management has a different outlook and different problems from those of the membership. The interest of management is concentrated on the collective sector of the farm, whereas the members have an additional interest — the private plot. It is therefore to a certain extent necessary to consider separately the incentives to management and those to membership.

Incentives to management

In contrast with the situation in a state industrial enterprise, the management of a collective farm has a genuine interest in maximizing the income available, after payment for current inputs from outside, for distribution and other uses within the farm. Its scope for action in pursuit of this objective comprises not only the organization of work within the farm, but also some possibility of varying its pattern of output and of deliveries to the state in accordance with the relative prices of different products and of the material inputs required for their production, and taking into account the current relative efficiency of the farm in various possible lines of production.[162]

However, another respect in which the collective farm differs from the industrial enterprise is that the availability of investment resources to the farm is very closely linked to the size of its current income. Thus, a farm which succeeds in earning a much higher per capita income than its neighbour will not only be able to distribute more to each of its members but will normally also be able to undertake more investment per capita, thus increasing its ability to raise its income and living standards further in the future. Differences in natural and climatic conditions tend to intensify this built-in tendency for the gap between the richer and the poorer farms to widen, since the element of differential rent in the tax system is small and the regional differentiation of prices is too crude to allow fully for such differences.

In the national interest the state requires from the collective-farm sector the pursuit of three distinct, but somewhat interconnected aims: (*a*) increase in output, (*b*) improvement in efficiency or better factor utilization, and (*c*) guarantee of a certain pattern of output or deliveries in the short term. It follows from what has been said in the preceding paragraph that any general increase in prices of output, intended to promote the first of these aims, may tend to aggravate the existing disparity between rich and poor — generally equivalent to technically advanced and backward — farms. Changes in product prices designed to influence the pattern of output may sometimes have a similar effect, though this is less certain. Changes in prices of material inputs in relation to output prices may have a limited impact on farm efficiency; but the solution of the major problems in this field must, it seems, wait upon more fundamental reforms of the price, tax and credit systems than any that have yet been attempted in the Soviet Union, and which would correct the present mis-allocation of capital in relation to labour supply from farm to farm. The possibility of such reforms is discussed further below.

It is not the place here to attempt an historical review of the agricultural price system as it has developed in the Soviet Union and in the planned economies of eastern Europe over the past years.[163] In general, it may be said that, despite their fundamental importance, agricultural prices have not until very recently been utilized as a flexible instrument for encouraging production or efficiency. The system of compulsory deliveries at low prices in combination with supplementary state purchases at frequently changing higher prices, and the varying prices applied to means of production, made efficient cost and profit calculation at the enterprise level virtually impossible throughout the first postwar decade. In most countries price levels for farm produce were substantially raised in the period 1953 to 1955, but the systems of multiple prices remained largely unchanged up to about 1958.[164] Unified product prices, with regional differentiations and some flexibility in the face of year-to-year harvest fluctuations, were then introduced in the Soviet Union; and this example was later followed in most of the planned economies of eastern Europe. Today, unified prices are the rule, although a remnant of obligatory deliveries at low prices is still to be found in eastern Germany and in Poland.

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[162] At present nine-tenths of collective-farm money receipts in the Soviet Union result from sales of produce to the state (see V. Boiev, *Voprosy ekonomiki*, No. 5, 1963, p. 117).

[163] For a discussion of the problem in the earlier postwar years, see the SURVEY for 1960, Chapter IV.

[164] One of the purposes of the double-pricing was that the differential obligatory-delivery quotas should have the effect of collection of differential rents. Particularly in some of the eastern European countries this proved to a certain extent possible, as assessment was facilitated by fairly appropriate cadastres.

The 1958 reform of the state purchasing system and prices in the Soviet Union was of basic significance in the sense that collective farm income is no longer influenced by the form under which sales to the state take place; but the structure of agricultural prices remains unsatisfactory. Average price levels and relative prices have been adjusted again in recent years and the corrections of prices for livestock products in a number of countries after 1962 were particularly important. On the basis of relative profitability it was, in the Soviet Union, for a long time more rewarding for many farms to sell grains or other crop products directly to the state than to process them into livestock; and before the 1962 reform, prices for animal products did not even cover production expenditures in most farms.[165] The reform increased the profitability of livestock products and relieved the strain on procurement organizations and other bodies responsible for ensuring the planned deliveries; but the major defects of the price system have hardly been removed.

One of the most serious of these defects is that agricultural price formation is not guided by any clear concept of the function that prices are supposed to fulfil. They are neither "incentive" prices nor "cost" prices, and therefore provide no rational basis for planning either at the national or at the collective-farm level. According to a Soviet expert in agricultural pricing, "current prices do not yet fully take into account all the economic requirements resulting from the new conditions for economic activity of the collective farms after the reorganization of the Machine and Tractor Stations; do not contribute to an evening out of seasonal fluctuations in production; do not promote more rational utilization of land, labour and material-technical resources. Deficiencies in the structure of prices contribute to maintaining, and in many cases to increasing, the differences in the rate of growth, remuneration of work and labour productivity of the collective farms in the various republics, zones and regions of the country".[166]

One of the reasons for the unsatisfactory zonal price differentiation, which is a major problem in the Soviet Union, seems to be that, at the time when the system was elaborated, reliable data on costs of production in the collective farms were not available. Such calculations were introduced first in 1958. Moreover, the importance of the former payments in kind to the Machine and Tractor Stations as a means for collecting differential rent was not fully appreciated when the present regionally-differentiated prices were fixed, and they have tended to increase rather than to diminish the income disparity between collective farms. Other deficiencies in the present system are that not all product-prices are regionally differentiated[167] and that the differences in economic conditions of the collective farms in comparison with state farms are not sufficiently taken into account.[168]

Although farm management decisions concerning utilization of current material inputs (such as fertilizers, pesticides, and concentrated feed) and the acquirement of investment goods are probably today more dependent on the availability of supplies than on prices in most countries, the cost incurred has a direct influence on the income of the farm. Soviet prices for industrial means of production are not apparently designed to provide equal opportunities for technical progress in the collective farms in the various regions of the country. Prices for agricultural machinery, for example, are the same for the whole country, but transport costs have to be borne by the collective farms, so that, depending on the location of the collective farm, the actual cost to the farm can thus vary by as much as 15-20 per cent.[169] The problem is the same for prices of mineral fertilizers;[170] and it has been suggested that unified retail prices, free on rail (i.e. including average transport cost for the country), for both equipment and current inputs, should be introduced.[171] In the interest of accelerated technical progress in agriculture it is moreover recommended that the prices of new and modernized agricultural machinery, which in general seem to be much higher than is justified by their performance in comparison with that of old models carrying out similar work, should be revised. A correction of relative prices for various types and qualities of fertilizer, which at present are established on the basis of physical weight rather than pure nutrient content, would also seem desirable.[172]

At present there seems to be no question of any fundamental change in agricultural price formation in the Soviet Union but rather of a correction of evident inconsistencies. Further improvements in the structure of producer prices and in the relationship between producer prices and prices at which the farms buy their means of production are expected to promote more efficient production patterns.

In the Soviet Union the problem of agricultural prices, their structure and differentiation is closely connected with the problems of raising the production level in backward regions and farms and of inducing a more efficient use of resources in the macro-economic sense — in other terms, in agriculture as a whole. The present inadequate differentiation, not only of prices but also of income-tax and to a certain extent of credit allocation, tends to work to the advantage of already strong collective farms in naturally favoured regions and thereby to increase their possibilities for accumulation and thus for the intensification of production and increase of labour productivity. This brings to the foreground first the question of the collection and redistribution of differential rent in the collective farm sector for which no satisfactory solution has yet been found and, secondly, the question whether means can be found for changing the present range of combinations of land, labour and capital assets in the various collective farms in directions — probably reversing some current trends — which would produce higher returns in the farm sector as a whole.

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[165] See the *Bulletin*, Vol. 14, No. 2, p. 14, and N. Khlebnikov, *Voprosy ekonomiki*, No. 7, 1962.

[166] See V. Boiev, *op. cit.*, pp. 117-126.

[167] Prices for potatoes, flax, some pulse and small grain crops, wool and a series of other minor products are not.

[168] Neither in comparing state-farm production costs with those of collective farms nor in comparing costs of different collective farms is it satisfactory to value labour input in the latter farms in terms of its actual remuneration. Some standard valuation of a unit of labour input is required; but it is difficult to determine a logical basis for such valuation (see the *Bulletin*, Vol. 14, No. 2, p. 14, and the SURVEY for 1963, Chapter I, p. 24).

[169] See T. Karliyuk, *Voprosy ekonomiki*, No. 5, 1964, pp. 75-93.

[170] See K. Obolenskii, *Ekonomika selskogo khozyaistva*, No. 6, 1964, pp. 16-25.

[171] See *Ekonomika selskogo khozyaistva*, No. 2, 1963, p. 112.

[172] See A. Nikolashkin, *Voprosy ekonomiki*, No. 5, 1964, pp. 64-74.

Labour mobility within the collective farm sector is very limited. Rich farms are unlikely to be eager to recruit additional members unless they are needed to relieve some pressing labour scarcity. Over-populated farms have correspondingly few possibilities of getting rid of labour except to the extent that their younger and more enterprising members tend to look for employment outside agriculture; and then the quality of their potential labour force decreases faster than the quantity. Land/labour relationships in the various farms thus tend to be only marginally variable (except when a merger of two adjoining farms of markedly different character proves possible). The allocation of capital could, however, be influenced directly by credit policy as well as indirectly through tax or price policies. The use of price differentiation to effect such changes or to skim off differential rents is likely to be a delicate operation if it is not to have unwanted effects on incentives and on the pattern of output and material inputs; but it does seem that tax measures might well be used more flexibly than is the case today.

One of the difficulties in the way of efficient application of any of these instruments in the Soviet Union is the fact that no adequately objective basis for differentiation exists at present.[173] The cadastral survey, which will now for the first time be carried out on a nation-wide scale in the Soviet Union, is designed to fill this gap.[174]

Incentives for the farm membership

The level of remuneration in the collective farm sector in relation to that of other employment tends first of all to effect the distribution of labour between collective farming, state farming and other occupations, to the extent that opportunity for movement exists. It might be expected that differences in remuneration between collective farms would tend to be evened out by compensating movements of labour; but, as has been mentioned above, mobility within the collective farm sector tends to be slight. Thus material incentives can be looked upon first as affecting the labour force of the individual collective farm competing for labour not with other farms but with other occupations including state farms; and in this connexion it may simply be noted that the tendency to move away from the poorer farms if employment at a higher income level is locally available may be influenced by administrative measures and by housing availability.

Within the collective farm, the problem of incentives to increase individual effort and efficiency is complicated first by the fact that the income available to the individual farm member is determined by the residual fund available for consumption and the claims upon it resulting from the labour input of other members — these two determinants not necessarily being very closely related. The second complication arises from the fact that most farm members still have a second source of income in the private plot. The objective of the incentive system is primarily to encourage the private members to increase their labour input in the collective sector; and in this context the level of remuneration for collective labour and the mode of payment are both of some significance. The level of remuneration in the collective sector and in relation to the level of income to be derived from equivalent effort on the subsidiary plot is clearly of particular importance and can be affected by prices, marketing possibilities and the extent of income distribution in kind by the collective.

Within the collective farm system, all factors having an impact on the level of net income of the enterprise are also of direct importance for the remuneration of the work of the farm members. The great income disparity among collective farms as mentioned above not only constitutes a serious handicap for the implementation of the principle of equal pay for equal work but also makes collective work in relation to work on the subsidiary plot vary widely in the reward it brings from one farm to another. The creation of conditions for more equal remuneration of collective farmers who work under highly unequal natural-economic conditions must necessarily be a long-term process, but at the enterprise level some improvement in material incentives for individual work can be achieved by the introduction of improved systems of remuneration.

Two alternative basic forms of distribution of the labour remuneration fund are today applied in the collective farms of the Soviet Union and the eastern European countries: *(a)* distribution of income in cash and in kind in accordance with the *trudoden* or labour-day unit system; *(b)* monthly cash payment in accordance with a tariff system established on the basis of work norms.

Despite shortcomings in providing material incentives to individual production efforts, the *trudoden* system which was established by the Soviet Model Statute of 1935 is still applied in a somewhat attenuated form in the majority of the collective farms in the Soviet Union. The *trudoden* is a conventional unit for computing labour input in the collective sector of the farm and at the same time for the distribution of net income. All work is normally classified — nine groups seem to be fairly standard — according to importance, complexity or difficulty involved, and rated at a certain number of *trudodni*. The actual value of the *truoden*, or labour-day unit, can, however, be identified only at the end of the year, when the income available for distribution in kind and in cash is known. Mechanized work is usually not included in the nine groups mentioned above, but is rated at a higher number of labour-day units; and this practice stems from the necessity to guarantee earnings approaching their former wage levels to the former state workers at the Machine and Tractor Stations who were taken over by the farms in the late 1950s. Remuneration to the chairman and other leading personnel is fixed in the form of a monthly sum of labour-day units, which is subject to a final adjustment in accordance with production results.

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[173] For a discussion of problems in connexion with differential rent in the Soviet Union, see L. Logvinov, *Differentsialnaya renta i ekonomika kolkhozov*, Moscow 1963.

In eastern Germany, where double-pricing was maintained longer than in most other countries, a reclassification of land as a basis for collection of differential rent was recently carried out (see Horst Anders, " Zum Wirken der Differentialrente in der sozialistischen Landwirtschaft der DDR ", *Wirtschaftswissenschaft*, No. 12, 1963, pp. 1928-1937).

[174] See G. Gorokhov, " Osnovnie trebovaniya k sodershanyu sovietskogo zemelnogo kadastra ", *Ekonomika selskovo khozyaistva*, No. 5, 1964, pp. 95-98, and *Voprosy ekonomiki selskogo khozyaistva na sovremennom etape*, Moscow 1963, p. 167.

Remuneration for labour in the collective farms is still to a significant extent handed out in the form of produce,[175] and the decision of farm management on the shares of income to be distributed in cash and in kind may have a decisive influence on the individual earnings of the farm's members. Although the in-kind element should not, in principle, exceed the requirements of the collective farm family, it seems that in most collective farms in the Soviet Union, distribution of cereals — the main product — as payment for *trudoden* is two to three times greater than average family needs.[176] The size of the in-kind payment is of great importance for the income which the individual farmer can derive from sales in the collective-farm markets — at prices usually higher than state-purchase prices; part of any surplus grain, after needs for family consumption have been met, may be sold directly; part will probably be fed to individually owned livestock. For the collective farm as such, it is sometimes advantageous to distribute feed for livestock rearing on the subsidiary plots to the members instead of rearing animals in the collective sector; individual earnings increase at the same time as taxable income of the farm is reduced.

It seems that the prevailing system of payments in kind for collective farm work, in combination with the subsidiary plot, tends to maintain certain characteristics of a "closed economy" in the collective farm sector; and this reduces the share of output, particularly of grains and feeding stuffs, available for sale to the state. The intended introduction of regular remuneration entirely in cash, whether it be calculated in relation to the *trudoden* or on any other basis, will help to change this, but the transition to such a system requires effective planning at the enterprise level, formation of solid collective money reserves and adequate organization of retail sales of produce to the farm members.

Since 1953 there has been a tendency to smooth the effects of the basic *trudoden* system by introducing more or less regular cash advance payments, with a final adjustment at the end of the year. Collective farms were then given permission to make advance payments to workers in the livestock and truck-gardening sector within the limits of a total amount representing 25 per cent of money receipts from sales of livestock and vegetables. In 1956,[177] the same system could be extended to all collective farm workers and 50 per cent of that cash could be obtained as short-term credit against deliveries to the state; on the request of the collective farm the State Bank is obliged to keep a special current account for resources which can be spent by farm management only for *trudoden* payments. A large number of collective farms are now paying guaranteed monthly advances in cash and in kind, but total available income is nevertheless subject to final distribution at the end of the year in proportion to the number of labour-day units earned.[178]

This practice is considered to create the basic conditions for the transition to a more advanced system of fixed monthly cash payments according to norms, rates and amount of work actually performed. The average rate is defined as the ratio of the total annual fund for remuneration of work to the total volume of labour in man/days or man/hours required, as laid down in advance in the annual production-financial plan of the farm in question. However, the transition has not yet been accomplished in more than relatively few farms in the Soviet Union.

One feature of the *trudoden* system is that, whereas labour input and the total fund available for the remuneration of work are linked to the extent that the marginal labour input is productive at all, the input of unproductive labour at the margin will not increase the total claim for remuneration: the fund available may be spread more thinly, but it cannot be exceeded. Under a cash-payment system based on established norms and rates, however, the saving of labour becomes of some concern to a management committed to certain rates of payment for labour input but with its total wage-fund limited by the output achieved. Whether this increased incentive for micro-economic efficiency in the use of labour can lead to equivalent macro-economic gains must, however, depend in large part on the incentive for labour saving being matched by opportunities for outward transfer of labour which cannot be efficiently utilized where it is or for the inward transfer of capital or other resources needed to provide it with the opportunity for genuinely productive employment.

The general adoption of monthly guaranteed cash payments at an acceptable level would, however, today place the majority of collective farms in a very difficult financial situation: the lack of ready money reserves. Many of the collective farms which have made the transition to regular guaranteed cash payments seem to have made the change too soon and at too high a basic tariff rate. In cases where the rate has had to be lowered from one year to the next, the new system has rather worked as a disincentive.[179] Another problem which has to be solved is the method of providing collective farmers with such basic supplies as they earlier obtained as payment in kind for *trudodni*. The fixing of the level of prices at which intra-farm sales of produce should be effected is one aspect of this problem:[180] if prices are too low, products will be bought for resale in the free market; if they are too high, the collective farmers will be encouraged to develop their subsidiary plots at the expense of work for the collective; and the introduction of rations, related or unrelated to labour input, would represent a retreat from the cash-payment system as well as easily leading to social injustice. In some farms products are at present sold to farm members at state retail prices, in others at state purchasing prices, and in many at their own estimated costs of production.

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[175] In the Soviet Union the in-kind element of distributed personal income is estimated at about 25 per cent (see K. Karpov, *Kommunist*, No. 2, 1964, p. 55).

[176] See D. Krivonogov, *Ekonomicheskie nauki*, No. 4, 1962, p. 29.

[177] See resolution of the Central Committee of the Party and the Council of Ministers "On monthly advances to collective farmers and supplementary payments for work in collective farms", March 1956.

[178] About one-fourth of the collective farms in the Soviet Union are now making guaranteed cash payments in one form or another (see *Voprosy ekonomiki*, No. 8, 1963, p. 146).

[179] See *Ekonomicheskaya gazeta*, 15 June 1963, Annex on "The principle of material incentives in the collective farms".

In line with the premia systems in state enterprises, many collective farms also operate a complex system of bonuses and make supplementary payments, not only to reward high productivity by individual farmers but also for over-fulfilment of plan targets by brigades and farm units. This additional material incentive usually takes two forms: a given percentage of the value of above-plan output or a given percentage of the total fund set aside for supplementary payments. In some cases bonuses are also distributed in accordance with indicators of quality and for work carried out ahead of schedule. The practical applications of the premia system appear to vary greatly among collective farms, and its incentive value depends largely on the organization of adequate and timely payments.

A special form of farm labour remuneration, resembling the traditional share-cropping system, was introduced some years ago in Hungary to palliate the incentive deficiencies of *trudoden* payments, especially within labour-intensive branches of production where crops need constant care during the vegetation period. About two-thirds of the Hungarian collective farms are now in one way or the other applying such "share-cropping"; individual collective farm families, besides their normal participation in collective farm work, take over responsibility for certain well-defined tasks to be carried out on a specific area and are remunerated by a percentage share in the production results.

In all the countries under review the time is apparently new considered to be ripe for the introduction of arrangements which will guarantee a "socially necessary minimum level" of income from the collective farm to the individual member;[181] and the system of guaranteed cash payments which is now, in one or another form, gaining ground within the collective farms is considered as a step in this direction. There seems to be no doubt that the application of the traditional principle of distribution of income, and the method of formation of the labour remuneration fund, constitute serious obstacles to the introduction of adequate material incentives for the collective farm workers. The following quotation from a Soviet source may serve as an illustration of the problems involved: "The fact that individual consumption as a condition for extended reproduction is ignored, leads to a situation in which the fund for remuneration of collective farm work is treated as a residue, after deduction for material expenditures, tax payments and allocations to collective funds. As the result of such a distribution of collective farm income, the allocation to the 'indivisible fund' frequently becomes an aim in itself. The resources of the 'indivisible fund' are often utilized in an inefficient way, get frozen in non-completed investments, at the same time as remuneration for work remains at a low level and sometimes even diminishes, which undermines the interest of the collective farmers in an increase of labour productivity. It is worth mentioning that the staff of the territorial production boards and the local agencies of the Gosbank very closely control the allocations to the indivisible fund but pay very little attention to questions concerning the formation of an adequate fund for labour remuneration and the level of remuneration."[182]

Conclusions — the current tendencies

The problem of raising output and efficiency in the agricultural sector of the centrally planned economies is obviously not a question of methods of planning and institutional structure alone. Basically the technical level of production is decisive, and can be raised significantly only with the aid of additional resources devoted to investment in the sector, to the expansion of supplies of current material inputs, to education and training, etc. But the issue relevant to this study is the extent to which current methods and institutions of planning and management favour or constitute an impediment to rapid development. Conditions of agricultural production differ from one country to the other and between regions of the same country, and most problems do not lend themselves to any standard solution. However, the collective farm system in its present form does seem to involve an unfortunately rigid distribution of labour, equipment and other inputs inimical to rational territorial planning and more efficient factor combination at the enterprise level and over the sector as a whole.

The importance of the enterprise, its form of management and material incentives, has in recent years been stressed in all countries. The managerial and material resources available for agricultural development would not permit a wholesale conversion of collective farms into state enterprises. But the collective farm system is nevertheless gradually being transformed and the tendency of this transformation is clearly to bring closer together the conditions under which the two types of enterprise work. The new system of state direction of the agricultural sector through the territorial production boards, which has now been introduced in most countries on the pattern of the Soviet reform of 1962, will certainly strengthen this evolution; and one of the most important tasks of these boards is to watch and advise on local problems of production so as to achieve more efficient resource utilization, which is closely linked to questions of enterprise planning in the state as well as the collective farms.

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[180] For a discussion of problems connected with the formation of prices on the internal collective farm market, see V. Morozov, *Voprosy ekonomiki*, No. 8, 1963, pp. 144-150; D. Krivonogov, *Ekonomicheskie nauki*, No. 4, 1962, p. 29, and A. Ashchenlov, *Raspredelenie dokhodov v kolkhozakh*, Moscow 1961, p. 49.

[181] See E. Grinovskis, *Voprosy ekonomiki*, No. 7, 1963, pp. 140-145.

[182] G. Gaponenko, *Voprosy ekonomiki*, No. 5, 1964, p. 5.

Even though the state and collective farms are at present subordinated to the same territorial production boards, there are no economic links between them, and the boards carry no material responsibility for the activity of the subordinate enterprises. Suggestions have been made in the Soviet Union to unite state farms, collective farms and organizations of *Soyusselkhozteknika* in some kind of joint state and co-operative production and sales associations, which would be linked to the state and administered rather like an industrial trust or the new "Soviet firm" (see section 2 (*a*) above). This would permit a more flexible utilization of combined equipment, labour and financial resources; and the establishment of the level of remuneration for work in relation to the gross income of the association would provide a direct stimulus to production efforts. It is claimed that this would also contribute to raising the technical and economic levels of the many backward farms.[183]

The problems of agricultural planning and management will gain in importance, especially in the Soviet Union, with the new drive for intensification, concentration and specialization of farm output. The basic dilemma is, however, that the need rapidly to raise farm output calls for the immediate concentration of new resources in the form of fertilizers, machinery, melioration works, etc., where they will yield the quickest results — i.e. in farms which are already in a relatively favourable situation. As a consequence, the differential rent accruing to those farms will increase and the income gap widen, unless an adequate system for collecting and redistributing differential rent within the collective farm system can be elaborated.

However, the problem of the backward collective farms is already being attacked in the Soviet Union from several different angles; poor collective farms have been transformed into state farms,[184] inter-collective farm and state-collective farm activity has been developed and melioration works have been undertaken by the state to improve the situation of the less well-endowed; the carrying out of a cadastral survey for the whole country will provide the basis on which the systems of state purchase prices, income taxation and credit allocation can be reformed so as to permit a more rational differential treatment of individual farms. Similar measures are being taken in other countries, but their effect will everywhere be seen only in the long run.

Meanwhile, some corrective measures need to be taken at the level of the collective farm enterprise to create a sound basis for an effective system of material incentives for the workers directly involved in production; and in this context the collective farm system is undergoing a profound change. The idea that remuneration of collective farm labour should be treated as part of production costs at an initial stage is gaining ground; and such a change would put collective farm activity on an economically more rational basis. There can be no question of raising the level of remuneration for work in all collective farms to that of state farm wages at once, and differing upper limits will be set by the conditions of the individual farm. But the introduction of a minimum level with the help of state grants, as has already been done in Bulgaria, may soon become a topical question elsewhere. Some kind of guaranteed payments over the year are already made in a significant number of collective farms in all countries, and the general introduction of national schemes for pensions and social benefits to collective farm labour is also a step towards more equal treatment of agricultural and industrial workers, although directly related to the incentive problem only in so far as several countries now face the necessity to make special efforts to attract or retain farm labour.

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[183] See K. Karpov, *Kommunist*, No. 2, 1964, pp. 56-57.

[184] In the last 7-8 years about 19,000 collective farms have been converted into 3,100 state farms (see V. Morozov, *Voprosy ekonomiki*, No. 5, 1964, p. 19).

CHAPTER VII

ECONOMIC PLANNING IN YUGOSLAVIA

1. INTRODUCTION

Until the beginning of the 1950s the Yugoslav economy had all the features of a centrally planned system. Planning was conceived as a tool of direct and centralized management of the economy. Central directives stipulated the production targets for virtually every production unit together with the level of wages and employment, the cost-price structure, price levels and the scale and pattern of investment; the scope for the exercise of initiative in individual enterprises, and their freedom to take decisions, was severely circumscribed.

During the initial stage of postwar economic development this system succeeded in obtaining a substantial increase in the rate of savings and capital formation and in concentrating investment and material and manpower resources on a number of priority objectives, with the aim of effecting a thoroughgoing structural transformation of the economy. Subsequently, however, it came to be believed that a centralized system could not assure adequate scope for initiative, nor could it guarantee that decisions concerning the level of investment and prices, etc. would be based on economic criteria. The search for a more flexible approach began as early as 1950, but the task has not been easy. Only a system of central planning had been tried in neighbouring eastern European countries and the Soviet Union, and the Yugoslav Government had to rely entirely on its own experience and ingenuity. The system now in force emerged as a result of a continuous process of experiment and adaptation which, even now, is not considered as fully completed.[1]

The organization of the Yugoslav economy and its system of management, in particular, have attracted much interest in recent years. This is primarily due to the fact that for the first time an attempt has been made by a European country to combine central planning of the rate and the broad pattern of economic development with the extensive use of the market mechanism in the context of public ownership of the means of production. In Yugoslavia the enterprise enjoys a considerable degree of autonomy in its actions, which may well increase in the future. Even now the decisions of industrial and trading enterprises are largely based on the income-profit motive and market considerations. Planning, on the other hand, although much less ambitious in range and detail than in the early postwar period, remains an integral part of the management system and the implementation of plans continues to be a major concern of the Government. However, more than in any eastern European country so far, the Yugoslav Government has attempted to move as far and as fast as is practicable towards operating a market economy with public ownership or, in other terms, towards "planning by parameters"—the use of the price mechanism and tax, interest rate, credit, etc., policies to influence the actions of enterprises aiming to maximize their profits in a market (see Chapter VI, section 1). Direct controls remain; but the aim is to minimize their scope.

In view of the peculiarities of Yugoslav planning, the form of this chapter differs from the presentation adopted in the earlier parts of this study. More attention is paid to the implementation of plans than to planning techniques; and in order to bring out the main features of the system, the position of the enterprise and the role assigned to planning are examined first.

2. THE FRAMEWORK AND SCOPE OF PLANNING

As already indicated, the present Yugoslav planning system differs greatly from the highly centralized type employed in the early postwar period. Although operating within the same institutional framework of predominantly public ownership,[2] the plan is no longer the main tool of economic management, nor does it seek to regulate economic activity in any great detail. Broadly speaking, the plan stipulates only a few basic objectives formulated in rather aggregative terms, aimed at providing conditions appropriate for rapid and stable growth and at inducing the structural changes which are held to contribute to the overall stability and efficiency of the economy.

Although binding for governmental bodies and agencies, the Yugoslav plan is not mandatory for the managements of individual economic units; nor does it seek to force the latter, by means of decrees and instructions from "above", to adhere to the decisions of the planning authorities. Direct administrative controls are now limited to a few fields, and it is expected that most of them will disappear at a higher level of development, with the achievement of a greater degree of international competitiveness.[3] For its implementation, the plan relies mainly on the indirect effects of those economic policies which impinge on the decisions of the economic units. In addition, a number of political, social and professional organizations, which maintain close contacts with the latter and with various other economic agents, are required to co-ordinate individual and local interests and activities with those of the central government, thereby contributing to the implementation of the plan objectives. The extent to which they modify the impact of market forces on the decision-takers is difficult to assess, and varies over time and among sectors.

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[1] Changes in the Yugoslav economic system up to 1958 are described in more detail in "Economic Planning and Management in Yugoslavia", *Economic Bulletin for Europe*, Vol. 10, No. 3.

[2] In 1961, 96 per cent of total net output outside agriculture was produced in the socialist sector; the corresponding proportion for agriculture was 20 per cent.

Two basic features distinguish the present Yugoslav economic system from that of the centrally planned economies up to the present time: first, public enterprises enjoy a fairly large degree of autonomy; and, second, the market, which is now subject to only a few direct controls mainly affecting basic industries and imports, increasingly determines the activities and policies of the enterprise's management. The growth in the autonomy of the enterprise since 1952 has been accompanied by a decentralization and delimitation of responsibilities for, *inter alia*, capital formation of the three tiers within the Government system — federal government, republics and communes, with the result that the distribution of financial resources for investment is now rather decentralized.[4]

An understanding of the position of the enterprise is central to an appreciation of the Yugoslav system which relies increasingly on the market mechanism operating within the rather broad framework provided by the plan. It is through incentives and the indirect effects of the central Government's fiscal and credit policies that the enterprise is induced to contribute towards the implementation of the plan; the income-profit motive is the main stimulus for improving efficiency and for operating the enterprise along economically sound lines. The elimination of detailed, centrally determined targets, etc. "presupposes, however, the existence of an institutional framework regulating the autonomous status of enterprises . . . it also presupposes the existence of norms making provision for the management of socially owned property by workers' management bodies".[5]

The management of the enterprise, consisting of the workers' council and its executive, has complete independence of action in all matters concerning current output — its volume, structure and quality, the purchase of current inputs and their combination, costs of production, etc. Federal, republican and local plans do not stipulate any quantitative output targets for individual enterprises. Enterprises use these plans as indications of expected changes in demand and, in effect, implement them in so far as they prove to be correct forecasts of the market situation — though they can follow the results of their own market research if they consider them more accurate. No production, productivity, or cost norms are set by the central authorities, since it is expected that market competition will reward success and penalize failure. Failures, including excessive inputs of materials, have to be met from the enterprise's own resources at the expense of profit and, sometimes, also of the wage bill, since competition and price controls prevent abusive increases in prices. Thus, it is the market mechanism which, through competition and consumers' preferences, determines the volume, assortment and quality of production as well as the cost and price levels, except in those basic industries where rigorous price control exists.

Two main types of price control are practised in Yugoslavia. The first type, which takes the form of price ceilings imposed by the central authorities, applies to some qualities of coal, most ferrous and non-ferrous goods, certain other industrial materials, and also to electricity, rents and transport tariffs. Altogether, about one-third of total industrial output is covered by such controls. The second type, which is much more flexible in nature, applies to about one-half of the total output of consumers' manufactures. Enterprises which are subject to the latter type of control notify in advance their intention to raise prices. Usually the authorities then try to counteract this intention by resorting to more liberal import policies, by according tax concessions to the enterprises in question and/or, in the case of some staple commodities, by releasing government stocks. However, if these devices do not have the desired result or prove impracticable, the request for an increase in prices can still be temporarily refused. In agriculture, there are no longer any price controls; and the monopsonistic practices typical in the earlier period were discontinued in 1962. However, the levels of some agricultural prices are strongly influenced by imports of foodstuffs, the selling prices of which are determined by their import prices and the rate of exchange. On the other hand, measures of price support assure minimum prices for a large number of agricultural commodities.

The distribution of the income of an enterprise is governed, in the first place, by a complex set of fiscal

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[3] Most of these controls, particularly in the field of foreign trade, reflect structural imbalances which are attributable to an inadequate level of economic development. Certain others — for instance, the *ad hoc* price controls (now reduced in number) — are explained by temporary imbalances which occasionally appear in the wake of an unusually rapid, but inadequately balanced, rate of growth or by the need to counter any tendency of enterprises to exploit monopoly (or oligopoly) power. In some other cases, the existence of controls can be attributed to the lingering influence of the old system of state-managed economy, which will disappear as the present system is developed.

[4] Source of finance of gross capital formation in the public sector

	Percentages of the total			
	1949-1952	*1953-1956*	*1957-1960*	*1963 **
Federal	72.8	46.6	38.1	31
Republican	19.5	11.1	12.7	12
Communal	5.9	14.8	18.5	22
Enterprise self-financing [a] .	1.8	27.5	30.7	35

Source : National statistics.

NOTE. — Owing to recent fiscal changes, the enterprise share rose further in 1964, probably reaching some 50 per cent of the total.

[a] Including some investment in other enterprises via the banking system.

[5] B. Jelić, "Some experiences from the Yugoslav system of planning", Paper E/CONF.5/H/97 (29 November 1962), presented to the United Nations Conference on the Application of Science and Technology for the benefit of less developed countries.

measures by means of which a portion of its earnings is transferred to the various tiers and agencies of government, and by a number of norms and regulations through which wage control is effected.[6] The remainder of the income of the enterprise is left at the free disposal of the workers' council, which is empowered to allocate it among the wages and salaries fund, the investment fund, the reserve fund, the collective consumption of the employees, etc. So far as wage increases are concerned, however, the enterprise is authorized to raise its wage bill only if the increases can be justified as reflecting productivity gains and a genuine improvement in operating efficiency. This requirement is clearly liable to affect the enterprise management's decisions concerning the allocation of net profit between productivity-raising investment and other uses.

The management of the enterprise also enjoys a large measure of freedom in determining the rate of replacement or extension of fixed capital. Indeed, the use of depreciation funds is not, in principle, subject to any control; but in practice a significant degree of control can be exercised by means of the central allocation of imported capital equipment (or of foreign exchange for its acquisition). This qualification also applies to the enterprise's freedom to decide the volume of new investment, with the additional condition that the finance unconditionally available for new investment is limited to the investment fund accumulated from the enterprise's profit. If the cost of a new investment project exceeds the financial resources of the enterprise, the latter has to resort to the banks, which then apply certain criteria formulated in the plan. There is, therefore, a considerable difference between the position of enterprises which operate in industries subject to price control and that of enterprises which are free to fix the price of their products. For, since price controls tend to reduce profit margins (sometimes to a bare minimum), enterprises in the first group cannot hope to accumulate all the resources needed for extensions of capacity, and this makes them highly dependent on external finance and, consequently, on the financial and investment policies of the Government.

The enterprise undertakes investment in order to benefit from technical progress and to take advantage of economies of scale, with a view to reducing costs and raising income. In addition, the link between increases in the wage bill and gains in productivity (referred to above) also provides a stimulus to investment, since the introduction of modern techniques and the use of more efficient methods of production is often necessary to higher productivity. The enterprise is free to allocate its investment resources between fixed capital and working assets; but the principle that normal requirements of working capital should be self-financed is a means of promoting a balanced allocation. Additional working capital is provided by the banks only if a fixed proportion of the total has been derived from the enterprise's own resources. The mechanism also controls, to some extent, the level of stock-holding, although decisions about stock-building are within the competence of the enterprise.

The enterprise is obliged to deposit its undistributed resources with the banks, and the use of time deposit for this purpose is encouraged by a rather high rate of interest (6 per cent); interest is also paid on bonds and securities issued by the banks or by the Government. Moreover, enterprises which have savings deposits are given priority whenever they need additional finance for new investment.

The level of employees' remuneration is largely the responsibility of the enterprise. The existing system of wage control relates only to increases in the *total* wage bill, while individual wages — including bonuses and shares in profit — are determined by the workers' council. The workers' council establishes wage rates on the basis of such criteria as hours of work, piece rates, net output per worker, costs of production, etc. which it selects as being most appropriate in a given situation, and primarily aims at distributing basic wages (as well as bonuses and shares in profit) in proportion to individual productivity and individual efforts to reduce costs.

The proportion of output which is exported is not directly determined by the central authorities. It is either a function of financial stimuli, including retention quotas,[7] or of the profitability of contractual sales to export agencies. As far as imports are concerned, trading and production enterprises have free access to foreign exchange only for the purchase of liberalized imports, accounting for some 20 per cent of the total. Otherwise their freedom of action is restricted by the foreign-exchange quotas which are applied to various categories of imports; within these quotas, individual shares are decided upon through negotiations among enterprises themselves or — when imports are to be used as current or capital inputs — through the ability of particular enterprises to meet a number of criteria, such as the desirability of export promotion and import substitution, and the relative importance of domestic demands in the current market situation.

The decisions of the enterprise are therefore to a large extent influenced by the market. However, a number of agencies, primarily conceived as co-ordinating and advisory bodies, are in a position to influence the management of economic units : the *commune*, which is the principal organ of local government, co-ordinates the activities of enterprises in its district; trade associations, which arrange inter-enterprise contacts and organize common services for a whole branch; and trade unions, which advise on guaranteed wages and wage differentials. The *commune*, which plays a most important role in the whole socio-economic system, deserves particular attention.

Acting through its council and its subsidiary bodies, the *commune* maintains very close contacts, almost on a daily basis, with enterprises, which, in turn, are represented on the communal council. Together with the management of an enterprise, the *commune* constantly reviews the business and financial situation of the latter, discusses labour relations, investment, price and wage policies and other major issues, and states its views on any matters affecting the interest of the local community. The *commune* cannot exert any administrative pressure on enterprises, but can only advise and persuade. Without the support and guarantee of the *commune*, however, an enterprise cannot obtain finance from the banks; and since the latter also act as instruments of the central Government's financial and investment policies, the *commune* has an important role in linking and co-ordinating in a rather flexible way the decisions of individual economic units with the objectives of the plan.

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[6] Cf. Jelić, *op. cit.*, pp. 8 and 9; and pp. 10-12 below.

[7] A part of the foreign exchange proceeds placed at the free disposal of the enterprise for purchase of imports.

In conclusion, it may be said that the autonomy accorded to enterprises is intended to produce a system which stimulates their competitiveness and initiative as public agents; the framework provided by the plan — and implemented by the various tools of economic policy — ensures that they observe the broader economic and social priorities of the government. The market mechanism establishes objective criteria for appraising efficiency; the plan stipulates the " global proportions " which guide development. There are three such global proportions by which the planning authorities currently seek to influence economic activity: the distribution of gross national product between accumulation, personal consumption and collective consumption; the pattern of investment and, hence, of changes in the composition of output; and the share of domestic output entering international trade.

As already pointed out, these objectives of economic policy are quantified in the plan in fairly aggregative terms; in contrast both with earlier practice and with eastern European procedures, they deal with sectors and branches, and are not intended to be broken down into specific targets for individual economic units. Measures of a general nature, called "instruments of economic policy", are intended to affect the decisions taken in individual economic units in such a way as to ensure that the desired objectives be attained. Within the general framework of the plan and of the institutional arrangements for consultation and co-ordination, individual economic agents are free to pursue their own policies based on the income-profit motive and market considerations.

3. PLAN OBJECTIVES, TYPES OF PLANS, AND THE ORGANIZATION OF PLANNING

Since the introduction of planning in 1947, the Yugoslav economy has developed at a vigorous pace. Between 1948 and 1963 the net material product rose by 135 per cent and a considerably more rapid rise in industrial output brought about important shifts in the composition of the labour force and output. Largely as a reflection of the rapidly changing economic scene, plan objectives underwent significant modifications, although some of the broader aims of development strategy were maintained over the whole period. Among these broader aims rapid growth, industrialization and full employment were probably the most important, although the achievement of the latter was never formulated as a specific objective of any of the past plans.[8]

The main objectives of the first five-year plan (1947-1951), which in nature and scope was similar to the early medium-term plans in eastern Europe, were to lay foundations for a high and sustained rate of growth and to launch an ambitious industrialization programme based on the development and use of domestic natural resources. With these objectives in mind, emphasis was laid on the need to attain a high accumulation rate and the investment programme accorded first priority to basic industries — energy, the production of capital goods and metal-making industries. A rise in consumption, though not entirely neglected, was obviously not a primary concern at this stage. The balance-of-payments problem received hardly any attention in the plan since it was firmly believed that the long-term trade and credit agreements concluded with eastern European countries would solve it.

Despite the fact that many of the more detailed targets were never met, and despite the abrupt cessation of trade relations with eastern Europe in 1948 and a shift of investment resources to national defence purposes, all of which adversely affected the implementation of the plan to a substantial degree, this first plan, rather hastily prepared and based on little experience and scanty statistical information, nevertheless served a very useful purpose. Investment, which in 1947 was barely 10 per cent of national income, reached 27 per cent in 1951. In the same period, the output of the capital-goods industries increased by 138 per cent, while the agricultural labour force declined from 75 per cent of the total labour force in 1947 to 60 per cent in 1954. Moreover, in appraising the contribution of the plan to the economic development of the country, its great psychological impact should also be taken into account. The Government had taken care to make the plan a major political issue and to harness the enthusiasm of the population which grew up in the years of war and revolution. By means of voluntary labour, the competitive efforts of workers and employees, campaigns to eradicate illiteracy and widespread meetings and discussions, people even in the most remote areas were activated and induced to contribute towards the fulfilment of the plan.

The years that followed witnessed the emergence of new concepts of planning as a result both of the experience acquired and of changing economic conditions. At the same time the original attitude concerning the management of a socialist economy, the role of the state machinery and collectivization, etc., had already undergone significant changes, and the scope of the planning process together with the choice of techniques and of implementation instruments had to be adjusted accordingly. The preparation of a new medium-term plan was deliberately postponed and, in the interim period, the economy was managed on the basis of annual plans. Broadly speaking, the latter adhered to the objectives of the first five-year plan, but the scope of planning was gradually restricted[9] and the investment programme tended to be concentrated on a few " key " projects.

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[8] The attainment of full employment is viewed as a long-term objective that is closely linked with structural changes and, in particular, the advance of industrialization — characteristics which are common to all medium-term plans. In the early years of planning, however, the Yugoslav economy experienced a labour shortage, and open unemployment (over 6 per cent of the labour force in 1963) first appeared around the mid-1950s as a consequence of the discontinuation of collectivization of agriculture and the introduction of a wage system aimed at encouraging higher productivity. Disguised unemployment in agriculture is at present estimated to be equivalent to about one-fifth of the agricultural labour force (at the existing level of productivity), while in 1947 it was about one-third.

The second five-year plan (1957-1961) — actually implemented in four years — emerged in a different atmosphere. The workers' councils were already firmly established and it was accepted that planning should take account of market criteria. In sharp contrast with the first five-year plan, which had been conceived as a method for a highly centralized direction of the economy, the second plan stipulated only the global proportions and sought to provide only a general framework for the development of the economy.

The second five-year plan paid more attention to consumption and the standard of living. Accordingly, the planned distribution of national income slightly favoured consumption in comparison with the previous plans, and it was postulated that wages should benefit fully from any increase in productivity.[10] The investment ratio provided for in the plan was still high, but the investment pattern was considerably more diversified than in preceding years. Light industries and agriculture — since it was obvious that this sector was threatening to become a major bottleneck — obtained larger shares of investment resources. At the same time, the plan stressed the importance of export promotion and import substitution as criteria for allocating investment resources to individual projects.

The third five-year plan (1961-1965) also aimed at a more balanced pattern of growth, particularly by a further increase in the share of resources allotted to agriculture and consumers' goods industries, but certain priorities continued to be observed. The plan needed to direct attention and resources to transport and to some of the basic industries where capacity was lagging behind the needs of the economy. A considerable part of planned investment was, therefore, necessarily of a type which could not contribute directly to a rise in income. However, it soon proved difficult to implement the investment plan. A steep rise in consumers' demand, together with inflationary finance of decentralized investment,[11] resulted in much larger outlays of fixed capital formation than foreseen; this occurred principally in industries producing intermediate goods and consumers' durable goods. At the same time, the response of agriculture to the increased investment and the new agricultural policies fell short of expectations.

After one or two attempts to modify the investment pattern the authorities decided to abandon the plan. A new seven-year plan is now being prepared and will soon be submitted to the National Assembly. Planning continues to be conducted on the basis of annual plans which, in a more flexible way, pursue the main objectives of the abandoned five-year plans.

Both the second and third five-year plans were very much concerned with the balance-of-payments problem which, in fact, proved to be the major constraint that had to be taken into account in their preparation. Nevertheless, whenever balance-of-payments considerations conflicted with the implementation of the plans and the attainment of the planned rate of growth the authorities usually resorted to fresh borrowing from abroad. A closer integration of the domestic economy into the world economy was one of the broader aims of the economic strategy underlying the third five-year plan. A single rate of exchange and a number of other measures were introduced in the first year of the plan to bring about a closer alignment of domestic to world prices.

It was mentioned above that, whereas previous Yugoslav medium-term plans covered a five-year period, the new plan will span a seven-year period. The medium-term plans are broken down into annual plans but, as shown earlier, annual plans have sometimes been called upon to assume the sole responsibility for guiding economic activity. The medium-term plans formulate the main objectives as well as prescribing the instruments of economic policy to be used, while the annual plans deal with the same subjects more specifically, in greater detail and taking account of the current situation. The annual plans are particularly concerned with the allocation of centralized investment resources and the volume and pattern of imports, and they try to make the necessary adjustments to the instruments of economic policy by gauging their effects in quantitative terms and by comparing the pattern of consumption and the structure of output. From time to time long-term projections are also made for the internal use of the planning authorities, but they are mainly limited to rough estimates of rates of growth and the major sectoral changes which may be expected over long periods. Partial long-term plans, prepared jointly with trade associations, are sometimes drawn up for some sectors where the production process stretches over long periods — for instance, energy, the steel-making and chemicals industries — but apart from these instances, long-term planning has not yet been undertaken.

In addition to the central plans, plans are also drawn up at the republican and communal levels — particularly for the scale and pattern of investment in their respective areas. These plans, of course, conform with the objectives of the central plans but both the republican and local authorities have considerable freedom of action within the limits of their available resources. Co-ordination between communal and republican plans, and between republican plans and the central plan, is effected on an almost continuous basis in the process of implementation; but neither total investment nor the pattern of investment planned by republics and communes is expected to coincide exactly with the volume and overall pattern of investment written into the central plan.

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[9] Detailed production targets were abolished as early as 1951, but during the following two years overall output targets were still set — branch by branch in the central plan for each enterprise by the local authorities — in the form of a required minimum utilization of capacity. For further details see the *Bulletin*, Vol. 10, No. 3.

[10] The adoption of this principle, however, was also dictated by the need to stimulate productivity.

[11] See the SURVEY for 1961, Part 1, Chapter I, pp. 43 *et seq.*; and p. 14 below.

It should be added that each enterprise has a plan which contains two different but closely interrelated components. First, part of the enterprise plan sets out production targets and the product mix in physical terms. This part of the plan also indicates the coefficients of inputs of capital, raw materials and labour, so that it shows where there is a need to extend capacity, purchase materials and to recruit additional labour. In preparing this part of the plan, official plans and unofficial projections and forecasts are taken into account, as are the indications obtained from the enterprise's own market research and delivery contracts concluded with other organizations. The second part of the plan deals with the financial aspects of the enterprise's activities. Physical targets and inputs, etc., are converted into value terms, and the effects of taxes and other instruments of economic policy are taken into account. The financial plan also serves as a check on the physical plan, since the latter must conform to financial considerations. As already stated, all the decisions rest entirely with the management, and there is no reason to expect that the sum of production targets set by individual business organizations would correspond to the global estimates contained in any of the official plans.

The Federal Planning Office, which is the central planning body, fulfils the role of the expert body which submits a draft of the plan for consideration by a special government committee, the Planning Committee. If accepted, the draft is passed to the Government for further detailed discussion, and is then submitted to the National Assembly. During the preparation of the plan the Federal Planning Office co-operates closely with such bodies as the state secretariats (ministries), the planning offices of the republics, the Federal Economic Chamber, the National Bank and the trade unions. Once the plan has been approved by the National Assembly, the Federal Planning Office, in co-operation with the state secretariats, must review its implementation and suggest the necessary policy measures. Generally, the proposals which are put forward result from detailed consultations between the Federal Planning Office and the other bodies concerned, with any differences of opinion being brought to the attention of the Government. The Federal Planning Office has no administrative powers.

Republics and communes have their own planning organs, related to the respective levels of government more or less in the same way as the central planning agency is to the Federal Government. However, these local planning bodies are not subsidiary agencies of the Federal Planning Office, and they enjoy full autonomy in their activities; they are in contact with the central planning body only in order to achieve the co-operation needed for a co-ordination of views and activities.

4. The Construction of Plans

The medium-term plan procedure begins with the formulation of an aggregate analytical framework called the "basic economic balance". This balance reviews the resources available and their structure, including the stock of capital and the level of employment in the base year of the plan.

As can be seen from Table 1, the economy is divided into two main sectors, each allocated a row, "means of production" (in turn divided into capital goods and intermediate products) and consumers' goods; the columns, which are relevant to the generation of the product of each sector, contain a number of items such as capital stock (divided into fixed assets and working capital), employment, global social product (sub-divided into depreciation allowances, current material input, wages and surplus value) and the foreign trade balance (from which gross and net available resources are derived); finally, the distribution of net available resources between personal consumption, collective consumption, state and defence use, non-productive investment, accumulation (sub-divided into the same groups as capital stock), and reserves, is shown.

The "basic balance" is accompanied by an input-output table and by a few sub-balances which give more insight into the structure of demand and supply, but which, at this stage, do not go beyond the three broad categories of goods — capital goods, intermediate products and consumers' goods. This provides material for computing coefficients of capital, labour and materials, which are used for deriving preliminary and tentative projections of the overall rate of growth and of the basic changes in sectoral relationships. However, since this procedure yields only crude approximations based on the conditions of the base year, the results have to be checked and revised in the light of trends observed in the preceding years. The time-series used cover social product, investment, productive consumption and foreign trade; and a structural analysis is undertaken for output by major branch, by region, by socio-economic sector and, where possible, by technical-economic conditions and by components of cost. This procedure is in advance of current eastern European practice in so far as it provides for the evaluation of fixed capital requirements together with an assessment of national wealth, and the estimation of the existing and possible future scale of capital utilization.[12]

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[12] The treatment of national wealth in the planning procedure has been largely due to the personal enthusiasm of a few individual research workers, particularly J. Vinski and S. Stajić.

TABLE 1

The basic economic balance for 1956

In billion dinars : current prices

	Capital stock	Fixed capital	Working capital						Employment *(thousands)*
				In output				In turnover	
			Total	Total	Raw materials	Work in progress	Finished products	Total	
Economy—total	4 628.8	3 747.0	881.8	675.0	386.8	106.7	181.5	206.8	7 278.0
Means of production	2 817.5	2 246.4	571.1	497.7	290.7	79.2	127.8	73.4	3 733.6
Capital goods	283.0	229.6	53.4	26.3	17.5	4.5	4.3	27.1	349.3
Intermediate products	2 534.5	2 016.8	517.7	471.4	273.2	74.7	123.5	46.3	3 384.3
Consumers' goods	1 811.3	1 500.6	310.7	177.3	96.1	27.5	53.7	133.4	3 544.4

	Depreciation	Current material input	All material costs	Wage bill	Surplus value	National income	Global value of output	Foreign trade			Gross available resources	Net available resources	Commodity turnover
								Imports	Exports	Balance			
Economy—total	188.0	1 677.0	1 865.0	577.0	896.0	1 473.0	3 338.0	366.0	369.0	−3.0 [a]	3 374.0	1 509.0	1 248.0
Means of production	125.0	1 112.0	1 237.0	312.0	584.0	896.0	2 133.0	243.0	235.0	+8.0	2 141.0	—	424.3
Capital goods	16.0	221.0	237.0	53.0	85.0	138.0	375.0	52.0	26.0	26.0	401.0	—	167.2
Intermediate products	109.0	891.0	1 000.0	259.0	499.0	758.0	1 758.0	191.0	209.0	−18.0	1 740.0	—	257.1
Consumers' goods	63.0	565.0	628.0	265.0	312.0	577.0	1 205.0	123.0	134.0	−11.0 [a]	1 233.0	—	823.7

	Net available resources	Personal consumption	Collective consumption	State and national defence	Total collective and state	Non-productive investment	Accumulation								Reserves and undistributed
									In working capital						
							Total	In fixed capital	Total	All production	Raw materials	Work in progress	Finished production	In turnover	
Economy—total	1 509.0	848.0	47.0	183.0	230.0	97.0	295.6	191.9	103.7	66.5	11.6	37.4	17.5	37.2	—
Means of production	—	—	(131.0)	(196.0)	(327.0)	—	268.9	144.7	124.2	114.6	42.6	38.0	34.0	9.6	—
Capital goods	—	—	—	—	—	—	34.5	12.1	22.4	16.8	9.2	2.3	5.3	5.6	—
Intermediate products	—	—	—	—	—	—	234.4	132.6	101.8	97.8	33.4	35.7	28.7	4.0	—
Consumers' goods	—	848.0	47.0	183.0	230.0	97.0	26.7	47.2	−20.5	−48.1	−31.0	−0.6	−16.5	27.6	—

Source : Jakov Sirotkovic, *Problemi privrednog planiranja u jugoslaviji*, Naprijed, Zagreb 1961, p. 184.

[a] Including aid which is not considered as regular imports.

Before examining the next stage of planning procedure, attention needs to be drawn to two features of the Yugoslav procedure where there is a sharp difference from the practice in both eastern and western Europe. First the choice of the level at which economic decisions are taken or, in other words, the degree of centralization and decentralization in the system, is formally incorporated in the plan. The plan in effect considers *by whom, about what* and *by which criteria* decisions will be arrived at and how the various decisions made at different levels and according to different criteria will be co-ordinated in order to ensure a dynamic equilibrium. Therefore, the plan seeks to trace the connexion between the development of demand and production in as much detail as possible with the result that Yugoslav planning probably has at its disposal the fullest array in Europe of the tools of plan formulation — national accounts, balances and input-output tables. Secondly, there are no technological directives such as those furnished by scientific co-ordinate bodies in eastern Europe. Regular input-output tabulations and up-to-date national accounts are improving the analyses of trends in technological relationships, but a reliance upon enterprise decisions taken within a market context obviates — as in western European plans — policy-making at this level.

Actually, planning proper begins at the stage where the resource surveys and global and sectoral projections are combined. Of these projections — which in fact are first approximations to the global proportions referred to in the preceding section — the rate of accumulation determines the rate of growth of total output and of the demand for capital goods; the overall rate of growth determines incremental demand for intermediate goods, while the increase in consumption — derived as a residual — determines changes in the level and structure of the demand for consumers' goods.

The main tools which are used at this stage are the balances referred to above and a simplified input-output table of the type shown below.[13]

Combinations of the various entries yield the structural relationships, the capital-output ratios[14] for the three broad sectors of output (capital goods, intermediate products and consumers' goods) and the rate of accumulation — both of which are computed in terms of global social product and national income, and also the foreign balance as a proportion of investment and investment in working capital as a proportion of total investment. The former two series yield the Harrod-

TABLE 2

The aggregated input-output table and capital requirements

			Intermediary deliveries			Final deliveries				
						Investments				
			Capital goods (1)	Inter-mediate products (2)	Consumers' goods (3)	In working capital (4)	In fixed capital (5)	Con-sumption (6)	Exports (7)	Total (8)
Producers' goods	Capital goods	1	—	—	—	—	x_1	—	x_2	X_1
	Intermediate goods	2	x_3	x_4	x_5	x_6	—	—	x_7	X_2
	Consumers' goods	3	—	—	—	x_8	—	x_9	x_{10}	X_3
Primary imports and inputs of final goods	Imports	4	x_{11}	x_{12}	x_{13}	—	x_{14}	x_{15}	—	X_u
	Depreciation	5	x_{16}	x_{17}	x_{18}	—	—	—	—	X_a
	Wage bill	6	x_{19}	x_{20}	x_{21}	—	—	—	—	X_p
	Surplus value	7	x_{22}	x_{23}	x_{24}	—	—	—	—	X_v
	TOTAL	8	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8

(1)	Capital goods (2)	Intermediate products (3)	Consumers' goods (4)	Total (5)
Fixed assets	F_1	F_2	F_3	F
Working assets	f_1	f_2	f_3	f

Source : Jakov Sirotkovic, *Problemi Privrednog Planiranja u Jugoslaviji*, Naprijed, Zagreb 1961, pp. 348.

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[13] The simplified input-output table is computed from the " basic economic balance ", various supplementary balances and a more detailed input-output table containing over 80 entries which is drawn up every other year. The original data are derived from questionnaires which each business organization is required to complete. Among other items, the organizations have to report on the composition of their output (that is, capital goods, intermediate products and consumers' goods), the destination of their deliveries and the origin of their inputs (that is, from domestic sources and/or from imports) etc.

[14] As in eastern Europe, the capital-output ratios are computed on the basis of material product, although a definition which follows western European practice is used for statistical reporting.

Domar relationship, although formulated in terms of global value of output and based on average capital-output ratios.

There are five coefficients for each of the three sectors of output — the fixed capital coefficient, the coefficient of turnover (working capital), the technological coefficient (material cost in relation to global social product) and the coefficients of imports and of exports.[15] Projections of these coefficients for the plan period provide a model for the terminal year, with consumption obtained as a residual. However, since these results are obtained from a highly simplified input-output table, they cannot be viewed as final.

A further step consists of disaggregating the above projection. There are five "basic categories of disaggregation" — industrial, regional, sectors of ownership (socialist or private) and product groups in physical terms and also broken down by cost component. With these criteria, the Planning Office attempts to anticipate the evolution of the structure of the social product. These categories are introduced into concrete projections by means of the analysis of a series of balances. The national wealth table indicates possible degrees of capacity utilization. The expansion of production together with changes in production relationships, on the one hand, and changes in the distribution of economic resources during the plan period, on the other, are embodied in a preliminary input-output table. The latter is based upon projections of the output of branches (classified by delivery) of the end use of investment and its finance, of consumption (separately for personal and collective — the former using demand elasticities and income projections), a balance of government stocks and, finally, a financial balance on the eastern European pattern. The projections of technical relationships are also supplemented — where the input-output matrix of coefficients is too coarse — by the use of input norms. The only pattern of resource use which, however, evolves into a formal balance-model of the eastern European type is that of investment.

The final step consists of adjusting global and sectoral growth rates to each other so that supply and demand should match both globally and by sector. This completes the planning procedure and the plan is then submitted to the National Assembly for final approval.

It should be added, however, that in the formulation of global proportions, especially in the short-term plans which are used to translate the medium-term objectives into annual ones, the utmost attention needs to be paid to the expected quantitative effects of the instruments of economic policy.[16] Some of these instruments — certain tax rates and wage control, for example — are subject to legislation and cannot be changed from year to year without affecting the operations of business organizations. So far they have acted as constraints which planners have to take into account. But, as indicated above, the Central Planning Office, although not vested with administrative powers, must submit proposals on all measures and policies which it deems necessary for the implementation of the plan.

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[15] Using the symbols employed in Table 2, the formulae for these coefficients are:

(a) *Capital coefficients* (the amount of fixed capital related to the global value of output)

Capital goods, $\frac{F_1}{X_1}$

Intermediate products, $\frac{F_2}{X_2}$

Consumers' goods, $\frac{F_3}{X_3}$

(b) *Working capital — the coefficient of turnover* (the global value of output related to working capital)

Capital goods, $\frac{X_1}{f_1}$

Intermediate products, $\frac{X_2}{f_2}$

Consumers' goods, $\frac{X_3}{f_3}$

(c) *Technological coefficients* (material cost related to the global value of output)

Capital goods, $\frac{x_3+x_{11}}{X_1}$

Intermediate products, $\frac{x_4+x_{12}}{X_2}$

Consumers' goods, $\frac{x_5+x_{13}}{X_3}$

(d) *Coefficient of imports*

Imports of intermediate products related to material cost of product:

Capital goods, $\frac{x_{11}}{x_3+x_{12}}$

Intermediate products, $\frac{x_{12}}{x_4+x_{11}}$

Imports of capital goods related to investment in fixed capital:

$\frac{x_{14}}{X_5}$

Imports of consumers' goods related to total consumption:

$\frac{x_{15}}{X_6}$

(e) *Coefficients of exports* (exports related to the global value of output)

Capital goods, $\frac{x_2}{X_1}$

Intermediate products, $\frac{x_7}{X_2}$

Consumers' goods, $\frac{x_{10}}{X_3}$

The coefficients above are computed for the base year and then estimates, based on past experience and foreseeable changes (technological change, import substitution, export promotion, deepening of capital, etc.), are made for the final year of the plan. These coefficients, together with the projected growth rates, are used for the computation of a simplified input-output table referring to the final year which contains all the main elements relevant to the basic structural changes. It should be added that, for the purpose of this last table, average capital-output ratios are usually used (so as to avoid time-lag problems), while marginal ratios are employed more frequently in the preparation of annual plans.

[16] No econometric models have been used so far to determine economic policies in quantitative terms. The discussion of such models among Yugoslav economists — in which Professor Tinbergen has participated — suggested that, under Yugoslav conditions, too many variables would need to be taken into account and that such models would not be suitable for operational purposes.

5. Plan Implementation

As pointed out in section 1, the "first global proportion", as it is called, is the distribution of gross national product between accumulation, personal consumption and collective consumption along the lines determined by the central planning authorities. This is achieved by means of fiscal policies and wage control operating at the enterprise level, followed by a redistribution of tax proceeds among the various claimants. Workers' councils also play an active role in plan implementation, but their decisions do not affect the distribution of the centralized part of investment resources and budget revenue; they may, however, have quite a significant influence on the distribution of the resources at the disposal of the enterprise. Contrary to what might be expected, decisions of the workers' councils usually show a rather pronounced bias in favour of investment, largely due to their increasingly entrepreneurial attitude and to the influence of the *communes*, which are keenly interested in the promotion of productive investment. In the last few years, the combined effect of these two factors has frequently been to push the overall investment rate beyond that intended by the planning authorities.

With recent changes in the collection of the income tax on wages,[17] the fiscal mechanism now consists of only a few taxes which channel a portion of the enterprise's income (global value of output net of material cost and depreciation) to the centralized accumulation and the budgets of the three tiers of governmental authorities. These flows are set out in the accompanying diagram.

First, there is a federal tax of 6 per cent on all fixed assets and working capital (including financial assets). In effect, this tax is a form of interest on capital and ensures a minimum profitability in the use of resources — though in certain cases the rate charged may be as low as 1 per cent.[18] Secondly, there is the turnover tax, levied partly by the Federal Government and partly by the *communes*. However, in contrast to practice in eastern Europe, the turnover tax in Yugoslavia has the nature of an excess profit tax which is used to mop up that part of the enterprise's profit attributable to a monopolistic position or to any substantial advantages obtained from the structure of relative prices. Therefore, the rate of the turnover tax can vary quite substantially from one enterprise to another and, by definition, the tax does not apply to industries for which ceiling prices are set and where profits tend to be much below the national average. In some instances this tax may be used as an instrument of price policy (for example, to adjust the level of demand to the available supply of a particular product) and also to discourage domestic consumption when the exportable surplus of a particular commodity needs to be increased.[19] Finally, there is the federal tax of 15 per cent levied on the remaining income of the enterprise; in 1964 this ceased to be applicable to industries that are subject to rigorous price controls.[20]

With this examination of the taxation flows, the bulk of the centralized investment resources and most of the budget revenue have been accounted for. Attention is now directed to the distribution of decentralized resources at the disposal of the enterprise. In principle, it is the workers' council which determines the distribution of the residual income between the wage bill and profits. However, when making this allocation the workers' council must observe the requirements of the wage control mechanism which aims at eliminating increases in the wage bill that do not result from higher productivity and increased efficiency. Windfall gains, resulting from changes in taxation and speculative price increases, etc., are not considered sufficient grounds for any increases in the wage bill. In order to enable the workers' councils to determine whether an increase in the wage bill is justified or not, a number of indicators have been selected,[21] and special commissions set up by

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[17] Until recently, income tax on wages (15 per cent, on average) was collected by the enterprise; but it is now paid directly by the wage- and salary-earners. The income of individual agricultural producers is also subject to an income tax based on cadastral income which varies according to the bonity of land. There is also an income tax for handicraft producers and the professions.

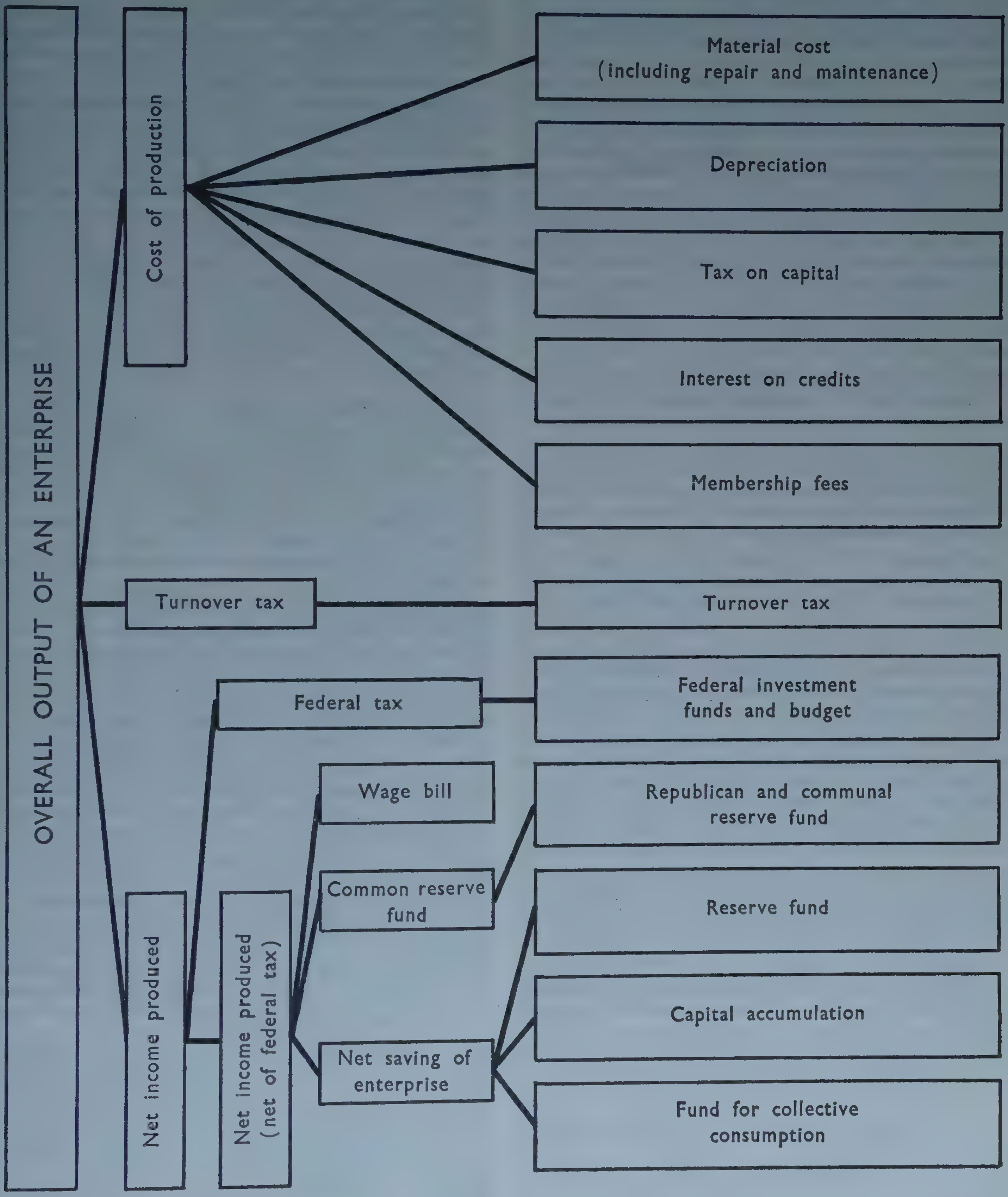
[18] Tax concessions of this kind are extended either to industries where, due to specific conditions, profit rates fall behind the national average (mainly basic industries) or to sectors where fiscal incentives are deemed necessary — agriculture and transport, for example, but also a number of mining establishments.

[19] It should be noted that, as it operates at present, the turnover tax does not seem to have been conceived in a very appropriate way. The fact that the tax is levied at all stages of production tends to encourage vertical integration within the same production unit but, on the other hand, tends to discourage specialization among enterprises.

[20] As can be seen, the tax system has been subject to frequent changes, mainly in order to alleviate the tax burden borne by the enterprise — a major point of criticism in the past. First, in 1961, flat tax rates were substituted for the progressive ones in order to introduce a greater degree of incentive into the tax system by linking changes in wages more closely to changes in productivity and changes in productivity more closely to those in net profits. For similar reasons the excess profit tax and the mining rent were abolished in 1963. In the same year taxable income was reduced by an upward adjustment of the value of fixed capital assets and depreciation rates, undertaken in order to give more liberal allowances for obsolescence and risk-taking and thereby to stimulate technological progress. In 1964 the 20 per cent profit tax was abolished together (as mentioned above) with the 15 per cent federal tax in basic industries with fixed ceiling prices, and the rate of the turnover tax was reduced in quite a number of cases. It should be added, however, that even with the abolition of the 15 per cent federal tax in price controlled industries, their profit rates (and therefore their capacity to finance investment from their own resources) remained very low. In order to improve the financial situation of these enterprises and to step up the degree of self-financing, their prices have been gradually, but continuously, raised. All these reforms, which followed the attainment of a high rate of capital formation, reflect the general trend towards decentralization and the growing degree of autonomy enjoyed by enterprises.

[21] The more important among these indicators are the following: (*a*) indices of total output, of output per worker and output per unit of capital; (*b*) the proportion of output sold and the relationship between net and gross output; (*c*) changes in the degree of utilization of fixed and working capital, changes in the structure of capital (fixed and working) and in the age composition of fixed assets; (*d*) changes in gross wages per worker and in the ratio between total wages and net income of the enterprise. These indicators are intended to show the cause of any increase in net output as well as portraying

Distribution of income at the enterprise level


OVERALL OUTPUT OF AN ENTERPRISE
Cost of production
Material cost (including repair and maintenance)
Depreciation
Tax on capital
Interest on credits
Membership fees
Turnover tax
Turnover tax
Federal tax
Federal investment funds and budget
Net income produced
Net income produced (net of federal tax)
Wage bill
Common reserve fund
Republican and communal reserve fund
Net saving of enterprise
Reserve fund
Capital accumulation
Fund for collective consumption

communes assist the workers' councils when making the relevant decisions.

As already pointed out in section 2, the system of wage control refers exclusively to the wage bill and not to individual wages. Its underlying aim is to link movements in total wages and salaries to those in productivity and thereby to eliminate the danger of an inflationary rise in labour costs. This rather simple mechanism also aims at discouraging unnecessary additions to the enterprise's labour force by stimulating increases in the average productivity of those already employed, since the fewer the number of workers that are employed at a given wage bill the greater the average reward. Once the size of the wage bill has been fixed, a portion of it (20-22 per cent up to 1963) is set aside as a contribution to social insurance. There is a 2 per cent deduction from profits for the reserve fund of the industrial branch and the remainder is then distributed freely between (*a*) the reserve fund of the enterprise, (*b*) productive investment resources, and (*c*) resources for the consumption of the workers' collective (housing, various cultural facilities, etc.).

These decisions of the workers' council, made in close co-operation with the *communes,* complete the distribution of resources at the enterprise's disposal. The distribution of the tax proceeds among the three claimants — the Federal Government, the republic and the *commune* — still has to be determined and, in examining this allocation, some additional sources of Government revenue must also be taken into account.

All proceeds from the tax on capital, a part of the 15 per cent federal tax, some of the interest charges payable by other banks to the National Bank and interest charged on credits from abroad accrue to the Federal Government for the purpose of financing the centralized part of investment. The federal budget, in its turn, appropriates proceeds from the federal turnover tax together with the remaining portion of the 15 per cent federal tax and all tariff revenue. At a later stage, part of the federal budget resources — the exact amount of which is decided by the Federal Assembly — is allocated to the less-developed areas as a contribution to their development effort.[22] The budgets of the republics and *communes* absorb — in proportions fixed by legislation — the locally levied turnover tax and all income tax; any revenue in excess of that which is budgeted for is transferred to the reserves of the Federal Government and used mainly for intervening in the market when the situation requires it.

Since each of the budgets contains provisions concerning the various categories of consumption, this procedure virtually completes the implementation of the first global proportion. Personal savings are being increasingly concentrated in the banks so that the planners can take them into account, but so far their importance has been rather small. Savings of private farmers and handicraft producers are more significant and are usually channelled directly into investment. Their total amount can be estimated partly on the basis of detailed annual agricultural household surveys and partly from past experience and various other indicators.

It should be added, however, that the distribution of investment resources as described in the preceding paragraphs does not necessarily reflect the capacity of the various economic units and governmental bodies to carry out investment. Though a fully-fledged capital market does not exist in Yugoslavia, the savings of the public agents are all placed with banks, which make them available to investors at all levels and in all regions.[23] The Federal Government holds its investment finance and the undistributed portion of its budget revenue with the three specialized federal banks (Investment Bank, Agricultural Bank and Foreign Trade Bank); the republic and *communes* have their own business banks which concentrate their funds as well as all the savings of enterprises within their respective territories.[24] Every enterprise, *commune* and republic and also the Federal Government [25] are entitled to borrow

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the conditions under which an enterprise operates. Some of them aim at describing the conditions (technological and other) which prevail in similar industrial branches, so as to enforce a degree of uniformity in rewards obtained for similar work.

[22] These resources are allocated directly to republics, which reallocate them to communal budgets or to their respective " business banks " for the purpose of financing investment.

[23] Under the old system, abolished in 1963, the investment funds of the Federal Government, republics and *communes* were strictly separated. This tended to reduce the inter-regional flow of capital and to limit the choice of the investment projects of republics and *communes* to the investment capacity of a given territory. The concentration of investment resources within the banking system was greatly encouraged by the introduction of interest payments on all time deposits held by the various economic units.

[24] The structure of the Yugoslav banking system may be briefly described as follows:

First, there is the National Bank, which is primarily the bank of issue, having deposits amounting to some 20 per cent of the total assets of the banking system and about 60 per cent of total liabilities. All other banks keep 20 per cent of their deposits with the National Bank as a legal reserve ratio (though for certain special deposits this ratio is 100 per cent). The National Bank grants credits to the Federal Government as well as to the three specialized federal banks, and executes all international transactions. Each republic has a republican business bank which disposes of the republic's investment resources (the republican " investment funds " which were abolished in early 1964), undistributed budget revenue, those savings which enterprises may decide to retain and 5 per cent of all deposits of *communal* business banks. They are authorized to extend credits to enterprises and to issue bonds and securities (to be subscribed by *communal* banks and enterprises) in order to increase their lending capacity. Each *commune* is also entitled to its *communal* business bank which acts as a general credit institution. They rely on credits of the republican business banks but also keep current and time deposits of enterprises, various institutions and individuals and resort to discount operations. They engage in short-term and long-term credit operations and their liabilities are guaranteed by the economy of the *commune*. Finally, there are the three federal banks — Investment, Agricultural and Foreign Trade — which hold all the investment funds of the Federal Government and specialize in long-term investment credits.

[25] The Federal Government may also borrow on a compulsory basis. A loan amounting to 90 billion dinars has recently been floated in the following way: public enterprises and business banks were called upon to subscribe a sum amounting to 25 per cent of their respective reserve funds; business banks and enterprises were obliged to subscribe 10 per cent of the increment of their resources in the year 1963; and republican and local governments contributed 10 per cent of their investment funds (these funds were abolished in early 1964). The capital thus collected was transferred to the Federal Investment Bank which assumed responsibility for all the commitments arising from the operation; the loan was covered by securities bearing 3 per cent interest and repayable in 10 years.

from the banks when in need of additional funds. But, as already pointed out, the banks in Yugoslavia have two functions: on the one hand, they are market institutions which conduct business according to their own economic criteria; on the other, they are instruments of central-government policy, closely reviewing the objectives and implementation of the plan. The latter role means that the banking system is particularly important for implementing the planned investment pattern — the essence of the "second global proportion".

The second global proportion is concerned with the composition of total output as determined by the investment pattern. Therefore, the implementation of this objective is closely related to the distribution, by industrial origin and area, of federal and republican investment resources, including the selection and initiation of new projects.

The mechanism by which individual investment decisions (and hence the distribution of investment resources) are made to conform with the objectives of the planning authorities consists mainly of financial policies in which the appropriate allocation of the centralized part of accumulation and foreign exchange is given considerable weight. Of course, this mechanism does not necessarily impinge on each individual economic unit, but it does affect the activities of each sector and each industrial branch to the required degree, which is exactly what the planners seek to do.

The resources at the disposal of the enterprise are always sufficient to cover the replacement needs of fixed capital plus the cost of reconstruction work which, *strictu sensu*, does not represent a real addition to capacity. In some instances, particularly in light industries, the financial resources of the enterprise may also be adequate for carrying out new investment, but more often than not a significant extension of capacity is likely to require additional funds. Conditions may vary, of course, quite considerably from one case to another but, as pointed out in section 2, there is a group of basic industries subject to price control which depends on external finance for almost any new investment. Therefore, while the investment decisions of a large number of enterprises are taken mainly, if not entirely, in the light of market considerations, economic units in basic industries are compelled to adhere to the plan. Since the industries in question are of key importance in the economy, their conformity with central investment policy is not inconsistent with the logic of Yugoslav planning, though it interferes with the generally accepted principle that all enterprises should be accorded the same degree of autonomy. This last consideration was the underlying motive for the recent changes in the taxation system which sought to increase the degree of self-finance in economic units in basic industries.

External finance for new investment can come either from the centralized funds managed by the three specialized banks, from republican business banks and, in so far as their resources permit, from *communal* banks. The centralized funds are exclusively intended for financing investments in basic industries, and selected projects of nation-wide interest in agriculture, transport and foreign trade. The funds of the republics, managed by their respective banks, may be used for investments in any sector and branch with the exception of housing, social services and infrastructure (other than railroads and major roads) which are financed from *communal* budgets. *Communal* banks are also free to participate in all kinds of investment but, owing to their limited resources, only a few can finance important projects entirely by their own means.

An enterprise seeking additional finance can approach either the *communal* or the republican bank[26] or, in the case of basic industries, one of the federal banks. However, whenever federal resources are needed, these are not normally forthcoming unless the financial participation of the respective republican bank has first been secured.[27] In other words, the central funds can only be expected to cover that part of the total cost of an investment project which exceeds the self-financing capacity of the enterprise plus the financial contribution of the republic bank (and sometimes the contribution of the *communal* bank as well). This principle is strictly observed and enables the Federal Government to control a larger amount of investment than would appear from the size of the funds at its disposal.[28]

All applications to the federal banks for funds have to be channelled through the commercial bank of the republic concerned and if a project is accepted the federal bank holds the republican bank responsible for its execution and for any deviation from the agreement that is reached. However, before taking a final decision, the federal bank carefully examines similar investment projects proposed by other republics in order to ascertain that its choice is in the best interests of the economy.

The above mechanism deals with the distribution of investment in the basic industries and sectors that are of particular concern to the Federal Government; in a similar way the republics control investment activity in the rest of the economy through the medium of their banks.[29] The choice of projects which can be financed entirely from decentralized funds (including those provided by *communal* banks) is left to the decision of enterprises and *communal* authorities;[30] but, as soon as additional finance is required, the views of the republic's bank must be taken into account. Out of the various projects which appeal to a given industrial branch, the bank is free to choose those which, according to its criteria, seem most promising. Nevertheless, the distribution of the investment finance in question (bank credits plus decentralized funds) by industrial branch and sector of economic activity must conform to the desired pattern.

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[26] Though there are no hard-and-fast rules, an enterprise in a relatively wealthy area would normally apply to the *communal* bank first, since the latter's participation would help in obtaining additional credits from the republican bank.

[27] It should be recalled that the operations of the federal banks, as well as those of the republican banks, are largely governed by commercial motives. Therefore, the Federal Government can only participate in an investment project which the bank would not normally be prepared to finance, if it guarantees that any failure in repayment (including interest and other charges) and any loss that the bank may incur will be met from the federal budget.

[28] As shown in section 2, in 1963 federal funds financed less than one-third of total investment, while it is estimated that about one-half of total gross investment (and 60 per cent of total net investment) was controlled by the Federal Government.

[29] With the exception of housing which, as mentioned above, is the responsibility of the *commune*.

[30] Investment projects in Yugoslavia are usually initiated by enterprises and *communal* authorities — rarely by the republics or the Federal Government.

It should be made clear, however, that in the case of non-basic industries the central planning authorities do not insist on a rigid implementation of their investment policy. The investment pattern prescribed by the republic's plan may, and usually does, differ from that laid down in the central plan. It is generally accepted that since the planning authorities of the republic are better acquainted with local conditions and are in a superior position for maintaining close contacts with enterprises, their respective associations and the local governments, they can assess market conditions and anticipate changes in demand and supply with a greater degree of accuracy than the federal planners. Consultations between planning authorities at the two levels take place whenever the situation requires it but, within the limits of its funds, the business bank of the republic has almost complete freedom to pursue the investment programme contained in the republic's plan. This procedure allows greater attention to be paid to market criteria and local conditions and, in general, endows the planning mechanism with a greater degree of flexibility.

Short-term credit policy merits some attention since it can affect, to a certain extent, the implementation of the second global proportion, as described on p. 13 above. This policy is largely the responsibility of the National Bank, which determines the volume of short-term credit and its distribution by sector, branch and area. Republican banks, in addition to their own funds, have access to those of the National Bank; and, in turn, *communal* banks have access to the funds of the relevant republican bank. In its allocation of short-term credit, the National Bank must take account of the overall and sectoral rates of growth laid down in the plan. However, neither the National Bank nor the local banks are required to determine their policies in any rigid way, at the beginning of the plan period. On the whole, their policies in this field tend to be quite flexible and are subject to continual revisions in the light of current development. As will be explained below, this flexibility can sometimes result in too liberal an attitude which, in turn, can give rise to inflationary tendencies.

The final global proportion comprises the overall export target and the volume and composition of imports but in the present circumstances its implementation is closely related to the implementation of the global proportion discussed above. In the absence of state trading machinery and of any firm targets for individual enterprises, the implementation of the overall export target depends entirely on the commercial nature of the enterprises and their competitiveness in foreign markets. In order to stimulate exports, incentives of a rather general type have been established. Business organizations which specialize in foreign trade (at present, some 300) are entitled to retention quotas, while the amount of foreign currency to be allocated to production units which also directly engage in imports is made dependent on success in export markets. Furthermore, as explained above, the turnover tax may be used to discourage the domestic consumption of particular products, thereby raising the level of supplies available for export. Up to 1961, a vast array of export premia was also used, but with the introduction of a single rate of exchange in that year, this practice had to be discontinued. However, in order to ease the transition to the uniform rate, a few classes of premia — affecting some 43 per cent of total exports and approved by GATT — were retained.[31]

On the import side the implementation mechanism is more complex. Due to persistent balance-of-payments difficulties and the necessity of observing priorities in the allocation of foreign exchange, import trade is subject to direct controls, the effects of which are far more important than those of tariffs.

At present, only about 20 per cent of total imports, consisting mainly of raw materials, semi-manufactures and a few consumers' goods, can be imported freely; there is an additional proportion (of about 3 per cent of the total) for which import licences and foreign currency is automatically granted. A global quota of foreign exchange is earmarked for imports of capital goods and put at the disposal of the Federal Investment Bank. To conform with plan decisions taken in connexion with the second global proportion, the Bank sets aside part of the above to finance the import content of centralized investment, and distributes the rest among republican banks which, in turn, make an allocation by sector and industry. The detailed allocation is, however, largely determined by the individual economic units and by their negotiations with the banks. As already pointed out, the banks give special weight to the export promotion and import substitution effects of the investment projects submitted by individual enterprises but, as an additional criterion, they also take into consideration the size of the enterprise's imports in the preceding year. Production units are also entitled to some foreign currency for their replacement needs (which are determined as a fixed percentage of depreciation in the current year) and they may be permitted to finance imports of capital goods by some of their foreign exchange earmarked for imports of current inputs and of their foreign exchange earnings. No foreign exchange is allocated to imports on the restricted list — about 6 per cent of the total. Only currency earned through retention quotas may be used for such purposes, and even then import licences are not automatically granted. Finally, a general licence is applied to all other types of goods and a foreign exchange quota, automatically accompanied by the necessary import licences, is allocated to each category. The amount of foreign currency that an enterprise receives for the purchase of such imports is determined as a proportion of its imports in the previous year.

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[31] These premia amount to 10 per cent, 22 per cent and 32 per cent of the official rate of exchange, respectively.

The agricultural sector merits separate attention in view of its special characteristics. Judged in the narrow context of the planning techniques which are used however, there is not a great difference between this sector and the rest of the economy. It is true that, in the case of agriculture, a great deal of the required statistical information cannot be obtained directly from producers and that, instead, it is necessary to resort to sample surveys and occasional censuses, (including those for balances of individual commodities) etc. The degree of accuracy which attaches to such information is not always particularly high and a certain amount of guesswork is inevitable. Nevertheless, as in other sectors, projections of output, both in global terms and by groups of commodity (and occasionally by individual commodity also), are made. These projections are then supplemented with a number of programmes dealing with irrigation schemes, mechanization, the use of fertilizers and of selected seeds and even with such measures and policies as the consolidation of holdings along with the extension of the socialist sector.

The mechanism for implementing the agricultural programme, however, depends on an institutional framework which is far from homogeneous. In the socialist sector, which consists of large, technically well-equipped, public and co-operative farms and the general co-operatives (primarily servicing organizations), the implementation of plans rests on the same range of economic policies and develops in the same fashion as in any other public sectors. However, the socialist sector accounts for only 12 per cent of cultivable land, 10 per cent of livestock and about 35 per cent of the marketable surplus, of the agricultural sector.

In the private sector, the situation is more complex. This sector is burdened with all the practices of, and penalties for, backward agricultural techniques — for example, small and fragmented holdings, the legal upper limit being 10 hectares (about 3.5 hectares, on average) and low yields per unit of land and labour. As it was conceived in the early postwar years, the collectivization of agriculture was soon found to be economically unsuitable; but it was also clear that the discontinuation of collectivization would not by itself provide any definite solution. The problems of the private agricultural sector are basically of a structural nature and they cannot be solved in the short run. However, in order to overcome some of these problems and to enable small producers to contribute towards the attainment of the plan objectives, a system of co-operation between the private and the socialist sectors has gradually been devised. Public farms are required to provide individual producers with services and technical assistance, and the general co-operatives are geared virtually exclusively to such activities. The latter are in a position to provide private farms with a wide range of services. Selected seeds, seedlings, saplings, fertilizers, pedigree livestock, as well as technical services may be obtained at special prices and with the help of credit facilities (provided the farmer undertakes to use the materials and services according to the instructions of the co-operative). Furthermore, the co-operatives may engage directly in production (ploughing, harvesting, etc.) on a contractual basis and share in the farmer's profit; in these cases, in addition to their own equipment, the co-operatives usually provide all the materials needed on credit. Finally, the co-operatives and private farmers may enter into partnership contracts, with profits distributed proportionately to their respective contributions. Co-operation in animal husbandry takes many forms : the supply of high quality breeds to private farmers; contracts under which private farmers assume the responsibility for breeding and fattening animals which are sold to the co-operative at agreed prices; and the provision of veterinary services and other technical assistance.

Such co-operation between the co-operatives and private farmers aims at improving the unsatisfactory conditions which prevail in the private sector. The provisions described above are supplemented by tax, price and credit policies which seek to stimulate the efficiency and investment activity of private producers. Reference has been made to the fact that the tax rate applied is a flat one and that taxable income varies according to the quality of land. Support prices, though probably set too low at the present stage, are designed to ensure reasonable "terms of trade" for agricultural products, and price differentials are used for inducing beneficial changes in the structure of output. The credit policy also plays an important role, both in the long and short run. In close co-operation with the Federal Agricultural Bank, the plan prescribes the total amount of long-term credit needed and its distribution between mechanization, livestock and irrigation projects, etc. and similar decisions are also taken at the republic level. Short-run credit policy, on the other hand, is mainly influenced by the degree of co-operation which exists with the socialist sector, but use of short-term credit facilities by private farmers depends to a large extent on market conditions and the interest rate. Financial assistance for the purchase of machinery, livestock and various inputs is given in the form of subsidies and some influence is exercised on the size and structure of output by means of contractual deliveries to the state and/or to various processing enterprises, at agreed prices.

6. Conclusions

The basic principles underlying the organization of the Yugoslav economy and the main features of the planning mechanism as conceived at the present stage have been described above. The foregoing sections did not aim at an appraisal of the performance and effectiveness of the mechanism. That the medium-term plans were subject to frequent revisions and sometimes had to be replaced by annual plans is a clear indication of the difficulties which, at one time or another, were encountered. However, such steps also point to the seriousness with which the planning process has been approached by the authorities.

The most original feature of Yugoslav planning lies in the machinery used for its implementation. On the one hand, this machinery must be flexible enough not to weaken the incentives for the management of individual economic units and to use their resources efficiently so as to match their customers' needs; on the other hand, it must ensure that the objectives set by the planning authorities are accommodated. The adequacy of the machinery which has been established depends, firstly, on the skill with which the spontaneous forces in the economy are assessed and the instruments of economic policy fashioned to influence them and, secondly, on the preservation of that minimum of direct control still necessary to ensure effective central determination of the broad pattern of development without weakening unduly the decentralized system.

Implementation of the first global proportion of the national plan does not seem to pose any major problems. Indeed, the centralized part of investment funds is provided automatically by taxation, and the desired savings-income ratio in the decentralized sphere is enforced, though less automatically, by the wage control system.

Implementation of the second global proportion encounters greater difficulties. The fact that the system does not guarantee that *ex ante* savings are matched by investment may not be particularly important since, at its present stage of economic development, the danger of investment falling short of savings in the Yugoslav economy seems very improbable; the danger might arise in the future, perhaps as a result of external developments. However, given the prevailing high propensity to invest, the possibility of the opposite disequilibrium — a tendency for investment to be greater than *ex ante* savings — is ever present. There are frequent references in the Yugoslav Press to the over-ambitious investment programmes of *communes* and business organizations alike and to the various devices which they employ for obtaining credits in excess of the limits set by central and republican plans. In these conditions the allocation of investment resources and short-term credits needs to be watched carefully and, as recent experience has shown, undesirable inflationary pressures may even then appear.

The strong inflationary pressures of 1961 and early 1962 were associated with the lack of discipline of a large number of enterprises — abetted by certain actions of local authorities. Following a reform by which working capital was placed entirely at the disposal of the business organizations, the latter tended to invest all, or parts, of these funds in fixed assets, while applying to the banking system for additional short-term credit. Such credit, though purely inflationary in character, was obtained rather easily since both the Government and the National Bank were apprehensive that a different course of action would adversely affect both investment in the pipeline and economic activity in general. Government measures partly consequential on the reform of the foreign trade system also contributed to the pressure on prices.[32] Energetic anti-inflationary measures were introduced in the second quarter of 1962,[33] but the inflationary pressures reappeared in 1964 when the National Bank, in its eagerness to promote growth, again adopted a very liberal short-term credit policy. The consequent inflationary impact on the market was aggravated by deliberate price increases in the agricultural sector and certain basic industries.[34]

The success of planning and the implementation of the second global proportion also depend, to a very large extent, on the appropriate use of the centralized investment resources which are intended for key projects and basic industries. In principle, the latter should prove a rather easy task, since this is precisely the field where the central authorities have complete control. However, a basic condition for the successful development of the country is that these centralized and very crucial resources should be employed in the most efficient way and in accordance with rigorous development criteria. To achieve this presupposes that the central Government (and, to a lesser extent, the republican governments) is in a position to resist the political pressures which arise in an economy that suffers from pronounced disparities in regional development. The fact that federal banks now apply, to a considerable extent, their own criteria when allocating federal funds to individual projects tends to limit the effect of such pressures, but it seems that more remains to be done in this connexion.[35] A new draft law, to be submitted to the National Assembly in the near future, provides for the establishment of a special fund, intended exclusively to promote the development of less developed areas. This should also help a distinction to be drawn between, on the one hand, investment resources which need to be deployed according to economic criteria and, on the other, those whose allocation is governed primarily by social and political considerations.

Any attempt to appraise the Yugoslav system of planning should take account of the fact that the system has yet had but a short history and that the organization of the whole economy has not yet been developed in full detail, though the main features of the system, particularly those concerned with the management of enterprises and the role of the *communes*, may be accepted as permanent.

The present demarcation between centralized and decentralized management does not appear to be final. There are likely to be marginal shifts in both directions, although the present trend of them undoubtedly favours the greater autonomy of the enterprise. A frequent criticism, for instance, is that certain business organizations, more particularly those in the basic industries, are not in a position to accumulate and that, therefore, their investment activity depends entirely on centralized resources. In order to remedy this, and to give to the economic units concerned a certain freedom of action, it seems probable that the prevailing price ceilings will be gradually raised. Prices of certain services will have to be revised too : whilst existing support prices will need to be raised in order to provide for a more remunerative market. Changes in the existing price structure are also necessary for aligning domestic more closely to world market prices — a step which would provide better criteria of efficiency and contribute towards the integration of the domestic economy with the rest of the world.

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[32] See the SURVEY for 1961, Part 1, Chapter I, section 5 and the *Bulletin*, Vol. 14, No. 2, pp. 51-54.

[33] These measures were mainly intended to ensure that business organizations financed more of their needs of working capital; they also required banks to allocate no less than 25 per cent of new loans to the provision of working capital.

[34] According to official statistics, such administrative price changes were responsible for about two-thirds of the total price increase registered in 1964.

[35] On the basis of official data, the allocation of investment by sector in the period 1957-1961 appears to be very close to the planned pattern. Expressed as percentages of total investment, the figures — actual and planned, respectively — were as follows: industry — 32, 33; agriculture — 15, 13; construction — 2.7, 2.4; transport — 18.6, 18.5. The distribution was also close to the plan within the industrial sector: extractive and heavy industries — 32, 31; energy — 36, 38; manufacturing — 32, 31.

NOTE TO READERS

While this study was in the press, a number of reforms — some of them far-reaching — of planning procedures in certain of the countries reviewed were introduced, or announced. In particular, the Supreme Soviet enacted legislation on 2 October 1965 dismantling the system of regional economic councils (*sovnarkhozy*) and establishing numerous new ministries to take their place. At the same time, important changes were made in the system of enterprise management. In Yugoslavia, a new and comprehensive economic reform was announced in July 1965. This reform which, *inter alia*, aims at further extending self-management by providing greater scope for decisions at the enterprise level will also have important repercussions on the whole system of economic planning, particularly in the sphere of allocation of resources.

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